

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-01

☐ Other ☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2013

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

LPB Support

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Tasks I and II

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☐

Work Assignment Amendment

☐

Incremental Funding

☒

Work Plan Approval

Period of Performance

From 06/23/2009 To 06/22/2013

Comments:

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

06/23/2009 To 06/22/2013

Cost/Fee: \$0.00

LOE:

This Action:

\$0.00

Total:

\$0.00

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

07/11/2012

Cost/Fee:

\$630,117.00

LOE:

3,000

Cumulative Approved:

Cost/Fee:

\$630,117.00

LOE:

3,000

Work Assignment Manager Name Ronald Morony

Branch/Mail Code:

Phone Number 202-566-0474

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

file

EPA		United States Environmental Protection Agency Washington, DC 20460		Work Assignment Number 3-01						
		Work Assignment		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:						
Contract Number EP-W-09-024		Contract Period 06/23/2009 To 06/22/2013 Base Option Period Number 3		Title of Work Assignment/SF Site Name Support of the LBP and RRP pro						
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Work Plan Approval		<input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Incremental Funding		Period of Performance From 06/23/2009 To 06/22/2013						
Comments:										
<input type="checkbox"/> Superfund <input checked="" type="checkbox"/> Non-Superfund										
Accounting and Appropriations Data										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: 06/23/2009 To 06/22/2013		Cost/Fee:		LOE:						
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee:		LOE:						
Cumulative Approved:		Cost/Fee:		LOE:						
Work Assignment Manager Name Ronald Morony						Branch/Mail Code:				
(Signature)						Phone Number 202-566-0474				
(Date)						FAX Number:				
Project Officer Name Cynthia Bowie						Branch/Mail Code:				
(Signature)						Phone Number: 202-564-7726				
(Date)						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
(Signature)						Phone Number:				
(Date)						FAX Number:				
Contracting Official Name Christine Edwards						Branch/Mail Code:				
(Signature)						Phone Number: 202-564-2182				
(Date) 6/21/12						FAX Number:				

Contract Number: EP-W-09-024

Work Assignment Number: 3-01

Change Number: 0

Title: Support for the Lead-Based Paint Program

Purpose: To provide technical support of the implementation of the Renovation, Repair and Painting Program as well the all other aspects of the Lead-Based Paint Program. This is continuation of work began under work assignment 2-04 of this contract. No work shall be duplicated.

A. Background: Title IV of the Residential Lead-Based Paint Poisoning Prevention Act requires EPA to undertake various actions to reduce the incidence of lead poisoning. These actions include technical studies to support rule making, outreach to the regulated community, outreach to the public and support of the regulatory functions.

B. Scope of Work:

Task 1 RRP Logo Site

The contractor shall develop and maintain the web site where certified renovation firms can access and download the RRP logo with their own certification number. The contractor shall also provide and email address and phone number to answer technical questions on the downloading of the RRP logo. At times it may be necessary to link that email address to a staff person from EPA.

Task 2 Cleaning Verification Cards

When directed by the WAM, the contractor shall provide Cleaning Verification Cards that meet the quality control standards previously developed. The cards shall be shipped to the National Lead Information Center in Rochester, NY. It is anticipated that the cards will be produced in batches of 150,000. Assume two batches will be required.

Task 3 Support of the Outreach Efforts at Trade Shows

When directed by the WAM, the contractor shall purchase exhibit space at trade shows and shall staff the EPA provided booth. These services include shipping the EPA booth to the show and returning it to a location designated by the WAM. Also include in this task is paying for incidental fees such as drapes, delivery charges, etc.

Task 4 Technical Studies

When directed by the WAM, the Contractor shall produce studies on Lead-Based Paint issues. These studies are anticipated to be of short duration, less than 30 days. The exact nature of the study and due date will be contained in the technical direction. Anticipated topics are work practices on Public and Commercial Buildings and other rules in development.

Task 5 Revisions to Major Documents.

When directed by the WAM, the Contractor shall provide draft documents of revisions to major documents such as "Protect Your Family" (PYF) and training manuals. It is anticipated that there will be several drafts of both the revised text and graphics. PYF is a joint publication of HUD and EPA and will need to be cleared by both agencies. The contractor shall produce both an English and Spanish versions of the document. It may be necessary for the contractor to convene one or more focus groups in both English and Spanish to determine the readability and understandability of the document. There may be more other documents to be revised.

Task 6 Lead Outreach Support

When directed by the WAM, the Contractor shall provide support to a major outreach effort on outreach to the regulated community on the Repair, Remodeling and Painting Rule. The contractor shall provide assistance with identifying target audiences. This includes the purchase of mailing lists and associated services.

III. Deliverables:

Tasks 1 to 3: A letter report providing statistics on the activity for the contract period shall be provided. This can be part of the monthly report.

Task 4. A draft and final report as detailed in the technical direction.

Task 5. CDs of the professional print files of the documents ready for printing.

Task 6. A letter report detailing the activities performed.

A work plan is not required. A financial plan is required.

A QA/QC plan is not required.

CBI does not apply.

This work assignment relates to Tasks II, III and IV of the current Statement of Work (SOW) of the contract.

IV. Period of Performance:

This work assignment will start on the date of the Contracting Officer signature and extend through June 22, 2013.

V. Level of Effort

This work assignment shall require no more than 3,000 professional hours.

VI. EPA Contacts:

Work Assignment Manager:

Ronald J. Morony
US EPA National Program Chemicals Division
Program Assessment and Outreach Branch(7404T)
1200 Pennsylvania Avenue, NW
Washington, DC 20460
Ph: 202-566-0474
Fax: 202-566-0469

Deputy Work Assignment Manager:

Clarence Lewis
US EPA National Program Chemicals Division
Lead, Heavy Metals and Inorganics Branch(7404T)
1200 Pennsylvania Avenue, NW
Washington, DC 20460
Ph: 202-566-1243

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-02

☐ Other ☒ Amendment Number:

000002

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2014

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

Technical Support to Chem...

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☒

Work Plan Approval

Period of Performance

From 06/29/2012 To 06/22/2013

Comments:

I approve Battelle's Financial Work Plan for WA 3-02 on EP-W-09-024 for 2,615 hours and \$334,520.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period

Cost/Fee: \$0.00

LOE: 0

06/23/2009 To 06/22/2014

This Action:

\$334,520.00

2,615

Total:

\$334,520.00

2,615

Work Plan / Cost Estimate Approvals

Contractor WP Dated

05/21/2013

Cost/Fee:

\$334,520.00

LOE:

2,615

Cumulative Approved:

Cost/Fee:

\$334,520.00

LOE:

2,615

Work Assignment Manager Name Jeffrey Taylor

Branch/Mail Code:

Phone Number 202-564-8828

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-02

☐ Other ☒ Amendment Number:

000002

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2013

Base ☒

Option Period Number

Title of Work Assignment/SF Site Name

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 06/29/2012 To 06/22/2013

Comments:

Add 640 hours with this amendment.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
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3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period

Cost/Fee:

LOE:

06/23/2009 To 06/22/2013

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Jeffrey Taylor

Branch/Mail Code:

Phone Number 202-564-8828

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards


Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 3-02			
						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000001			
Contract Number EP-W-09-024			Contract Period 06/23/2009 To 06/22/2013 Base Option Period Number 3			Title of Work Assignment/SF Site Name Technical Support to Chem...			
Contractor BATTELLE MEMORIAL INSTITUTE				Specify Section and paragraph of Contract SQW					
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval						Period of Performance From 06/29/2012 To 06/22/2013			
Comments: I approve Battelle's Financial Work Plan for WA 3-02 Amendment 1 on EP-W-09-024 for 595 additional hours and \$74,692 total additional cost.									
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>									
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.									
SFO (Max 2) <input type="checkbox"/>									
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars) (Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1									
2									
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5									
Authorized Work Assignment Ceiling									
Contract Period:		Cost/Fee:		\$172,665.00		LOE:		1380	
06/23/2009 To 06/22/2013									
This Action:				\$74,692.00				595	
Total:				\$247,357.00				1,975	
Work Plan / Cost Estimate Approvals									
Contractor WP Dated:		01/31/2013		Cost/Fee:		\$74,692.00		LOE: 595	
Cumulative Approved:				Cost/Fee:		\$247,357.00		LOE 1,975	
Work Assignment Manager Name Jeffrey Taylor <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number 202-564-8828 FAX Number:			
Project Officer Name Cynthia Bowie <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-564-7726 FAX Number:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Christine Edwards <div style="display: flex; justify-content: space-between;"> <div>  (Signature) </div> <div> 8/27/2013 (Date) </div> </div>						Branch/Mail Code: Phone Number: 202-564-2182 FAX Number:			

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-02

☐ Other ☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2013

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

Technical Support to Chem...

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☐

Work Assignment Amendment

☐

Incremental Funding

☒

Work Plan Approval

Period of Performance

From 06/29/2012 To 06/22/2013

Comments:

Work Plan Approval for WA 3-02 on EP-W-09-024 for 1,380 hours and \$172,665.

☐ Superfund

Accounting and Appropriations Data

☒ Non-SuperfundSFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 8)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
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4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee: \$0.00

LOE:

06/23/2009 To 06/22/2013

This Action:

\$0.00

Total:

\$0.00

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

07/18/2012

Cost/Fee:

\$172,665.00

LOE:

1,380

Cumulative Approved:

Cost/Fee:

\$172,665.00

LOE:

1,380

Work Assignment Manager Name Jeffrey Taylor

Branch/Mail Code:

Phone Number 202-564-8828

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards


Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-02 <input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024	Contract Period 06/23/2009 To 06/22/2013 Base Option Period Number 3	Title of Work Assignment/SF Site Name Risk Management								
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 06/29/2012 To 06/22/2013								
Comments: A Work Assignment for 1,380 hours.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
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5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
06/23/2009 To 06/22/2013										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor W/P Dated:		Cost/Fee:		LOE:						
Cumulative Approved:		Cost/Fee:		LOE:						
Work Assignment Manager Name Jeffrey Taylor								Branch/Mail Code:		
_____ (Signature) (Date)								Phone Number 202-564-8828		
								FAX Number:		
Project Officer Name Cynthia Bowie								Branch/Mail Code:		
_____ (Signature) (Date)								Phone Number: 202-564-7726		
								FAX Number:		
Other Agency Official Name								Branch/Mail Code:		
_____ (Signature) (Date)								Phone Number:		
								FAX Number:		
Contracting Official Name Christine Edwards								Branch/Mail Code:		
 6/29/2012 (Signature) (Date)								Phone Number: 202-564-2182		
								FAX Number:		

Contract Number: EP-W-09-024

Work Assignment Number: 3-02

Title: Technical Support to Chemical Hazard and Risk Evaluation and Risk Management

Purpose:

This work assignment continues and expands upon the work initiated under Work Assignment 2-02 of Contract EP-W-09-024. No work performed under previous work assignments will be duplicated under this work assignment.

I. Background:

This work assignment, entitled *Technical Support to Chemical Hazard and Risk Evaluation and Risk Management*, was developed to provide EPA with support in analyzing existing chemicals and pursuing follow-up work for those chemicals that have the highest hazard and risk.

EPA's Existing Chemicals Program addresses pollution prevention, risk assessment, hazard and exposure assessment and characterization, and risk management for chemical substances in commercial use. For the chemicals that EPA identifies as high hazard and risk, EPA will choose from among many actions that it is authorized to take under the current Toxic Substances Control Act. The Agency may pursue such regulatory actions as restricting chemical use through banning its manufacture/import, issuing Significant New Use Rules that require manufacturers/importers to alert EPA of any new uses, and publishing test rules that require the chemical industry to supply EPA with additional data. Among other options, the Agency will also analyze safer substitute chemicals and consider voluntary phase-outs from the chemical manufacturers.

II. Scope of Work:

Subtask 1. Work Plan and Task Management

The contractor shall prepare and submit a technical and financial work plan in accordance with the requirements of this contract. Work under this subtask will include participating in conference calls, preparing monthly progress reports, and other task management.

Subtask 2. Chemical Data Reporting (CDR)

The contractor shall assist EPA with managing chemical data under its CDR. Work may include supporting Internet communications, preparing webinar and training modules, and producing outreach materials. EPA may ask for help in querying 2012 CDR information, and may also require assistance in querying previous chemical data reporting cycles related to the Inventory Update Reporting (IUR) periods of 2006 and earlier. EPA may request CDR/IUR statistics in terms of chemical production volume, companies, industrial processing and use, consumer and commercial use, and other related information.

Subtask 3. Rulemaking Support

The contractor shall help collect, organize, and summarize comments that are submitted by public interest groups, industry, academia, and others to EPA rulemaking dockets. Among other rules, EPA publishes many TSCA section 4 test rules and TSCA section 5 Significant New Use Rules (SNURs).

Subtask 4. Chemical Prioritization & Work Plan Chemicals

The contractor shall assist EPA with identifying priority chemicals for risk management analysis. Work could include securing lists of chemicals that are being analyzed by: other countries, states within the United States, and EPA or other Federal agencies. The contractor may present information related to hazard, exposure, risk, and different environmental mediums such as air, water and soil. The contractor will help EPA identify and take follow-up action on Work Plan chemicals that generally have the greatest hazard and risk concerns. The contractor may also help EPA conduct research on the chemicals – i.e., regulatory reviews – in order to develop a clear understanding of whether or how the chemicals have already been regulated. Work may also involve an analysis of peer review.

Subtask 5. High Production Volume (HPV) Chemical Management

The contractor shall continue to maintain HPV Challenge Program records, and conduct queries on HPV Challenge Program data. The contractor may also perform work with other HPV chemicals.

Subtask 6. Miscellaneous Hazard, Exposure, and Risk Analyses

The contractor shall conduct analyses regarding other miscellaneous risk management projects as the need arises.

III. Deliverables:

Subtask 1.	The contractor shall prepare and submit the work plan in accordance with contract requirements.	
Subtask 2.	Chemical Data Reporting (CDR).	As specified in written technical direction.
Subtask 3.	Rulemaking Support	As specified in written technical direction.
Subtask 4.	Chemical Prioritization & Work Plan Chemicals	As specified in written technical direction.
Subtask 5.	HPV Chemical Management	As specified in written technical direction.
Subtask 6.	Miscellaneous Hazard, Exposure, & Risk Analyses	As specified in written technical direction.

- EPA will approve the work plan within 30 days of submission.
- A QA plan is not required.
- A work plan is required.
- CBI does apply.
- The work assignment relates to: Task II, Subtask 1; Task III, Subtasks 1, 8, and 13; and Task IV, Subtask 3 of the SOW.

IV. Period of Performance:

This Work Assignment will start with the date of the Contracting Officer's signature and extend through June 22, 2013.

V. Level of Effort:

The level of effort described in this work assignment shall not exceed 1,380 professional hours.

VI. EPA Contacts:

Work Assignment Manager

Jeffrey Taylor
EPA East Building, Rm 4410H, MC 7405M
1200 Penn. Ave, NW, Washington, DC 20004
Phone: (202) 564-8828
FAX: (202) 564-4775
taylor.jeffrey@epa.gov

Alternate Work Assignment Manager

Karen Hoffman
EPA East Building, Rm 4410E, MC 7405M
1200 Penn. Ave, NW, Washington, DC 20004
Phone: (202) 564-8158
FAX: (202) 564-4775
hoffman.karen@epa.gov

Alternate Work Assignment Manager

Katherine Sleasman
EPA East Building, Rm 4410G, MC 7405M
1200 Penn. Ave, NW, Washington, DC 20004
Phone: (202) 564-7716
FAX: (202) 564-4775
sleasman.katherine@epa.gov

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-03

☐ Other ☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2013

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

3-03 FOB work

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Tasks 1 and 2

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☐

Work Assignment Amendment

☐

Incremental Funding

☒

Work Plan Approval

Period of Performance

From 06/23/2009 To 06/22/2013

Comments:

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee: \$0.00

LOE:

06/23/2009 To 06/22/2013

This Action:

\$0.00

Total:

\$0.00

Work Plan / Cost Estimate Approvals

Contractor WP Dated: 07/16/2012

Cost/Fee: \$96,707.00

LOE: 587

Cumulative Approved:

Cost/Fee: \$96,707.00

LOE: 587

Work Assignment Manager Name Tom Simons

Branch/Mail Code:

Phone Number 202-566-0517

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

EPA United States Environmental Protection Agency Washington, DC 20460		Work Assignment Number 3-03								
Work Assignment		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024		Contract Period 06/23/2009 To 06/22/2013 Base Option Period Number 3								
Contractor BATTELLE MEMORIAL INSTITUTE		Title of Work Assignment/SF Site Name PCB & Formaldehyde								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 06/23/2009 To 06/22/2013								
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-89A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
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Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
06/23/2009 To 06/22/2013										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor W/P Dated:		Cost/Fee:		LOE:						
Cumulative Approved:		Cost/Fee:		LOE:						
Work Assignment Manager Name Tom Simons							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number 202-566-0517			
Project Officer Name Cynthia Bowie							FAX Number:			
_____ (Signature) (Date)							Branch/Mail Code:			
							Phone Number: 202-564-7726			
							FAX Number:			
Other Agency Official Name							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number:			
							FAX Number:			
Contracting Official Name Christine Edwards							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-564-2182			
							FAX Number:			

CONTRACT NUMBER: EP-W-09-024

WORK ASSIGNMENT NUMBER: 3-03

Developing technical information to support the management of fibers and national program organic chemicals

I. Background/Purpose

The National Program Chemicals Division (NPCD) in EPA addresses the regulation and management of fibers and organic chemicals. The regulation and management can include the development of technical analysis methods, development of guidance, generating technical information to support and initiate rulemaking, other administrative actions, and policy decisions. This is a continuation of work begun under work assignment 2-07 of this contract. No work shall be duplicated.

Currently EPA's attention is on polychlorinated biphenyls (PCBs) and formaldehyde emissions testing. In the future NPCD anticipates the need to develop technical information for other chemicals (phthalates, mercury, and others). There are three initial tasks for the work assignment. Work on these tasks was completed under Task 1 and Task 4 in the previous contract year. No work shall be duplicated. The first task of this Statement of Work addresses PCBs in buildings. The second task addresses analysis support for NPCD including formaldehyde emissions and PCBs. The third task is other national program chemicals support.

NPCD anticipates additional tasks for this work assignment later in the contract year.

II. Scope of Work by Task

Prepare a work plan for Tasks 1 – 3.

Task 1: PCBs in Buildings

When directed by the EPA WAM, Battelle will provide support to NPCD's effort to identify the risks and provide risk reduction methodologies for PCBs found in buildings including schools. EPA has recently updated the guidance on its website concerning caulk, fluorescent light ballasts, and other primary and secondary sources of PCBs found in buildings. Battelle will assist EPA in updating this guidance on an as needed basis as additional information becomes available. This may include updating the website, conducting literature searches, *ad hoc* risk assessments, exposure assessments, and statistical assessments related to PCBs in buildings. Battelle should become familiar with EPA's existing guidance as directed by the WAM.

Task 2: NPCD Analysis Support

Subtask 2-1: Formaldehyde Emissions

Battelle will conduct formaldehyde emission testing using modified ASTM E-1333 and/or ASTM D 6007-02 test methods to determine the effect of high temperature and high humidity on formaldehyde emissions from composite wood panels made with NAF and ULEF resins (i.e., products made with CARB-approved NAF and ULEF resins and/or labeled as NAF or ULEF). Testing should be conducted under the standard testing conditions specified in the methods as well as at elevated temperatures and humidities. Hardwood plywood panels should be tested that are made with urea-formaldehyde based ULEF resins, non urea-formaldehyde- based ULEF resins (e.g., phenol formaldehyde or melamine formaldehyde), and NAF resins. Testing should be conducted as described in revised protocol sent to NPCD on 5/31/12.

The project plan, testing protocol, and timeline for completing the work have already been provided to NPCD. Completion of formaldehyde testing and the final report are needed to complete the task.

Deliverables

- 1) Final report including procedure, results, and conclusions.

Subtask 2-2: PCB Dossiers

Four draft dossiers developed to support NPCD's PCB use assessment rulemaking have been provided to the WAM. The WAM will provide Battelle with comments on these documents which Battelle will incorporate.

Deliverables

Final dossiers incorporating NPCD's comments

Subtask 2-3: General Rule Support

Provide rule support in preparation of the NPRM as directed by the work assignment manager. Activities would include, reviewing existing ANPR comments, additional literature searches, *ad hoc* risk assessments, exposure assessments, economic cost/benefit analyses and statistical assessments related to the use of PCBs.

Task 3: Other National Program Chemicals

When directed by the WAM the contractor shall provide research and /or program support to EPA for phthalates, formaldehyde, mercury, and other chemicals.

III. Other Details

A work plan is required.

A QA/QC plan is not required.

CBI does not apply.

This work assignment relates to Tasks III and IV Program Support of the current Statement of Work (SOW) of the contract.

IV. Period of Performance:

This work assignment will start on the date of the contracting officer's signature and extend through June 22, 2013.

V. Level of Effort: 500 hours

VI. NPCD Contacts

WAM – Tom Simons (202-566-0517 / simons.tom@epa.gov)

Alternate WAM – Rebecca Edelstein (202-564-8566 / edelstein.rebecca@epa.gov)

EPA United States Environmental Protection Agency Washington, DC 20460		Work Assignment Number 3-04								
Work Assignment		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024		Contract Period 06/23/2009 To 06/22/2013 Base Option Period Number 3								
Contractor BATTELLE MEMORIAL INSTITUTE		Title of Work Assignment/SF Site Name Stat Support for CWA								
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval		Period of Performance From 06/25/2012 To 06/22/2013								
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
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Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		06/23/2009 To 06/22/2013		LOE:				
This Action:				06/23/2009 To 06/22/2013						
Total:				06/23/2009 To 06/22/2013						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee:		08/07/2012		LOE:		1,448		
Cumulative Approved:		Cost/Fee:		08/07/2012		LOE:		1,448		
Work Assignment Manager Name Marla Smith						Branch/Mail Code:				
_____ (Signature)						_____ (Date)				
Project Officer Name Cynthia Bowie						Phone Number 202-566-1047				
_____ (Signature)						_____ (Date)				
Other Agency Official Name						FAX Number:				
_____ (Signature)						_____ (Date)				
Contracting Official Name Christine Edwards						Branch/Mail Code:				
_____ (Signature)						_____ (Date)				
Contracting Official Name Christine Edwards						Phone Number 202-564-2182				
_____ (Signature)						_____ (Date)				
Contracting Official Name Christine Edwards						FAX Number:				
_____ (Signature)						_____ (Date)				

File

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-04								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024	Contract Period 06/23/2009 To 06/22/2013 Base Option Period Number 3	Title of Work Assignment/SF Site Name Stat Support for CWA								
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW I, II, and III.2								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 06/25/2012 To 06/22/2013								
Comments:										
Accounting and Appropriations Data										
<input type="checkbox"/> Superfund <input checked="" type="checkbox"/> Non-Superfund										
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
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Authorized Work Assignment Ceiling										
Contract Period: 06/23/2009 To 06/22/2013		Cost/Fee:				LOE:				
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee:				LOE:				
Cumulative Approved:		Cost/Fee:				LOE:				
Work Assignment Manager Name Marla Smith						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align: center;">(Signature) (Date)</div>						Phone Number 202-566-1047				
						FAX Number:				
Project Officer Name Cynthia Bowie						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align: center;">(Signature) (Date)</div>						Phone Number: 202-564-7726				
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Other Agency Official Name						Branch/Mail Code:				
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Contracting Official Name Christine Edwards						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align: center;">(Signature) (Date)</div>						Phone Number: 202-564-2182				
						FAX Number:				

Contract No. EP-W-09-024
Work Assignment 3-04

TITLE: **Statistical Support for Clean Water Act**

Purpose:

This work assignment is primarily a continuation of work started under WA 2-14 of this contract and Contract Number EP-C-05-030, Work Assignments 1-1, 2-13, 3-4, and 3-13. This work assignment does not duplicate any work in the previous work assignments.

Under Work Assignment 2-14, the contractor produced statistical support to EPA's preliminary evaluations of impingement data to support a final rulemaking under Section 316(b) of the Clean Water Act. The rulemaking schedule has been extended to allow for publication of a Notice of Data Availability (NODA). Consequently, much of the work originally intended for WA 2-14 will be completed in this new WA.

In addition to the follow-on work for the 316(b) rulemaking, this Work Assignment will provide, to a lesser extent, support to complete three studies and peer review of another study. This work assignment does not duplicate any work in previous work assignments. The projects are:

- Under Work Assignment 1-1 of Contract EP-C-05-030, the contractor provided statistical support to EPA's study of mercury in fish. This work assignment will provide support in evaluating peer review comments on the draft report and completing the final report.
- Under Work Assignments 1-09 and 2-11 of this contract (EP-W-09-024), the contractor provided statistical support to EPA's evaluation of quality assurance component of taxonomic identifications for the 2010 National Coastal Condition Assessment (NCCA). This work assignment will continue to reconcile and document differences in identifications between the primary and secondary laboratories.
- This work assignment is to provide support for the peer review process for the summary report for the National Rivers and Streams Assessment (NRSA). Contractor support is needed to identify, screen and engage suitable persons to technically review and provide timely comment. In addition, the contractor shall provide a report that summarizes and organizes the comments. The contractor has not previously been involved in this project, and thus, can appropriately support an independent peer review.
- Under Work Assignments of Contract EP-C-05-030, the contractor provided statistical support to EPA's sewage sludge study. This work assignment will revise the "*Targeted National Sewage Sludge Survey Statistical Analysis Report*" for a detailed evaluation of data for additional analytes.

This new work assignment relates to Task II Data Analysis, and to a lesser extent, Task I Data Collection and Task III Technical Program Support - General Support, of the current Statement of Work (SOW) of the contract. In particular, the work assignment will provide statistical support to EPA's evaluation and revisions for a final rule and three study reports. The contractor shall provide support in areas including statistical documentation, statistical analysis of performance/laboratory data, statistical review and comment, and statistical documentation for the development of the final regulations for cooling intake structures.

I. BACKGROUND

A. Statistical Support for Section 316(b) Rulemaking

The Clean Water Act, Section 316(b) requires that the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. More than 1,500 industrial facilities use large volumes of cooling water from lakes, rivers, estuaries or oceans to cool their plants, including steam electric power plants, pulp and paper makers, chemical manufacturers, petroleum refiners, and manufacturers of primary metals like iron and steel and aluminum. The Phase II rule, for existing power generators that withdraw at least 50 million gallons per day of cooling water, was promulgated on July 9, 2004. In 2007, a decision issued by the U.S. Court of Appeals for the Second Circuit (*Riverkeeper, Inc. v. EPA*, 475 F.3d 83 (2d Cir. 2007)), precluded EPA from applying the Phase II rule. In response, on July 9, 2007, EPA announced in a Federal Register Notice (72 FRN 37107) that it was suspending the requirements for cooling water intake structures at Phase II existing facilities, pending further rulemaking.

In March 2011, EPA proposed flexible technology standards that would greatly reduce damage to ecosystems while accommodating site-specific circumstances and providing cost effective options. The proposed rule covers roughly 1,260 existing facilities that each withdraws at least 2 million gallons per day of cooling water. EPA estimates that approximately 590 of these facilities are manufacturers, and the other 670 are power plants. The technologies required under the rule have been in use for several decades and have been implemented at a large number of facilities. More information about the proposed rule is available at <http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/index.cfm>.

The rulemaking schedule is part of a settlement agreement with Riverkeeper and is currently under negotiations. Regardless of any schedule decisions, EPA's intention is to complete the statistical work under this WA by September 30, 2012.

B. Statistical Support for Fish Issues

The Office of Water conducted a study titled *Assessing Mercury Tissue Levels at Existing Fish Consumption Advisory Sites*. Based on the identification of mercury advisory sites using the National Listing of Fish Advisories database, the objectives of the study were to:

1. Estimate the percentage of sites in the United States whose current mercury tissue levels warrant the same type of advisory (or meal advice) that was assigned prior to 1996 (and is still in place today);
2. Characterize the distribution (e.g., mean, standard error, selected percentiles) of mercury tissue levels in fish (of a targeted species) at sites having mercury consumption advisories in place today that date to before 1996; and
3. Determine on a site-by-site basis if the new mercury tissue concentration data support changes to existing consumption advisories, meal advice, or other recommendations.

The sampling design of the study involved the collection of fish from lakes, rivers, and reservoirs from areas under fish consumption advisory issued prior to 1996 due to mercury contamination.

Field sampling procedures and analysis followed EPA's *Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories, Volume 1: Fish Sampling and Analysis*.

Field sampling was conducted in the summer and fall of 2007. Mercury analysis was completed in February 2008. Analysis of tissue samples for selenium (Se) and a draft study report were completed in 2008. The Quality Assurance Project Plan (QAPP) for the project was completed and approved in 2008. A peer review of the draft report was conducted in late 2008. The purpose of this task is to develop a final report based on consideration of the peer review comments.

C. Taxonomic Identifications and Comparisons for 2010 National Coastal Condition Assessment

Numerous reports have identified the need for improved water quality monitoring and analysis at a local, state, or national scale to help determine the condition of U.S. waters and watersheds. The document "Guidelines for the Award of Monitoring Initiative Funds under Section 106 of the Clean Water Act" provides the foundation for the states, EPA, and other partners to collaborate on statistically-valid surveys of water condition at nationwide and regional scales, for all waterbody types, to improve water quality monitoring and decision making. Collectively, the surveys are called the "National Aquatic Resource Surveys." This Work Assignment will support EPA's quality assurance for the survey of coastal areas and Great Lakes.

The National Coastal Condition Assessment (NCCA) sampled more than 1300 sites within U.S. coastal waters and Great Lakes during the summer of 2010. National and state laboratories are currently analyzing samples for benthics and other analyses. Macrobenthic organisms collected and preserved at each site. At the laboratory, preserved composite samples are first be sorted into major taxon groups which then will be further identified to the species level, or lowest practical taxonomic unit, using specified standard keys and references. A 10% external check is standard practice for NARS with a requirement that results agree within 15%. The primary and secondary laboratories have completed their evaluations and the contractor is currently comparing and reconciling the results. EPA's intention is to complete the final report within the first month of the Work Assignment.

D. Peer Review for National Rivers and Streams Assessment

The 2008-2009 National Rivers and Streams Assessment (NRSA) was the first-ever baseline statistical survey of the nation's larger rivers (including the Great Rivers) and also provides a second look at the condition of small streams compared to an initial study (the Wadeable Streams Assessment or WSA) conducted in 2004.

The contractor shall provide peer review support for the NRSA summary report. A second, supplementary report will describe the methodology and results for the scientific community and should be used for supplemental information to help with the peer review of the NRSA Public report. The style and content of the reports will be similar to those developed for the 2007 National Lake Assessment:

- Summary Report: http://water.epa.gov/type/lakes/upload/nla_newlowres_fullrpt.pdf
- Technical Appendix (the NRSA version will be a "report" not an appendix): http://water.epa.gov/type/lakes/upload/nla_technical_appendix.pdf

The overall focus for the reviewers is to assess the technical merits of the findings in the summary report. Reviewers with expertise in aquatic ecological, and biological, and analysis, and environmental statistical experts will be needed. The EPA WAM shall review and consent to the qualifications of the pool of peer reviewer candidates, but the ultimate selection of peer reviewers from the approved pool shall be the responsibility of the contractor.

E. Statistical Analysis of Data from the Targeted National Sewage Sludge Survey

Because many chemicals tend to accumulate in sewage sludge during wastewater treatment, EPA initiated the Targeted National Sewage Sludge Survey (TNSSS) to characterize what chemicals may be present in sewage sludge. EPA collected and analyzed sewage sludge samples from 74 publicly owned treatment works (POTWs) that employ secondary treatment or better. The 74 POTWs statistically represent over 3,300 of the nation's largest POTWs. Sample collection at the 74 POTWs was conducted between August 2006 and March 2007. In April 2009, EPA released the "*Targeted National Sewage Sludge Survey Statistical Analysis Report*." The report includes minimum and maximum concentrations for 145 different analytes, including four anions (nitrite/nitrate, fluoride, and water extractable phosphorus), 28 metals, four polycyclic aromatic hydrocarbons, two semivolatile chemicals, 11 polybrominated diphenyl ethers (PBDEs), 72 pharmaceuticals, and 25 steroids and hormones. The report also includes nationally-representative estimates of the underlying distribution of concentrations across POTWs as well as an in-depth statistical analysis of a subset of 34 out of the 145 analytes. This work assignment will support EPA in evaluating the data for the remaining 111 analytes and revising the April 2009 report.

II. SCOPE OF WORK

Task 1: Workplan and Cost Estimate

The contractor will provide a work plan that describes the support that will be provided; identifies deliverables; and identifies potential problems that may arise in completing this work assignment on schedule and within budget. The work plan shall individually identify the estimated LOE and costs for Tasks 3, 4, 5, and 6.

The contractor shall provide overall work assignment management and interface with the EPA WAM.

TASK 1 – DELIVERABLES	
Deliverable	Due Date
Work plan	• Due 15 calendar days following receipt of Work Assignment.
Interface with EPA WAM	• As needed

Task 2: Quality Assurance

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved QAPP prior to the commencement of the work.

QA Project Plan Requirements

EPA policy requires that an *approved* Quality Assurance Project Plan (QAPP) be in place before any work begins that involves the collection, generation, evaluation, analysis or use of environmental data. For Task 3 (316(b) support), the contractor shall continue to use the approved QAPP developed under WA 2-14. For Task 4 (fish study report), a QAPP is not required. For Task 5 (Benthic QC), the contractor shall adhere to the NCCA Quality Assurance Project Plan and the contractor's QAPP that EPA approved under WA 1-09. For Task 6, all activities shall be performed in accordance with Agency Peer Review Policy procedures outlined in *U.S. Environmental Protection Agency Peer Review Handbook*, 3rd edition, 2006 (EPA/100/B-06/002, http://www.epa.gov/peerreview/pdfs/peer_review_handbook_2006.pdf). For the TNSSS statistical analyses, all activities shall be performed in accordance with the QAPP from WA B-5, Contract EP-C-05-030, which shall be revised under Task 7 if necessary.

The contractor shall review the previous QAPP to verify that the QAPP adequately documents how quality assurance (QA) and quality control (QC) shall be applied to all activities to be performed under this work assignment. As part of this review, the contractor shall also verify that existing QAPP content (e.g., organizational charts, roles and responsibilities, QA/QC procedures, checklists, SOPs, etc.) are still appropriate for the work to be performed under this work assignment. In addition, the contractor shall verify that the QAPPs:

- Addresses all activities identified in this PWS that involve the **generation** (including field studies, laboratory studies, and modeling output), **collection** (including surveys, literature searches, and third party data), **evaluation** (including data inspection, review, assessment, and validation), **analysis** (including statistical, engineering, and economic analysis and testing, evaluation, and validation of methods and models) **and use of data** to support EPA decisions, regulations, policy, publications or tools (including effluent guidelines, methods, criteria, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs). Examples of data include, but are not limited to, wastewater sample analysis results, flow measurements or data, facility questionnaire data, economic data, use of models, secondary data (including sources and the acceptance criteria), any software and database management requirements and any other relevant work that might affect the quality of the data. Note that QAPPs are also required for the development or revision of models and software that support the generation, collection, evaluation, analysis or use of data. For example, when existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model, how it shall be used, and how the model output shall be evaluated to ensure it meets the overall quality objectives for the project. However, development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that shall be applied to the model, and the procedures for evaluating whether the model meets those criteria.

- Provides enough detail to clearly describe objectives of the project supported by the work assignment; the type of data to be collected, generated, or used under this work assignment to support the project objectives; the quality objectives needed to ensure that these shall support the project objectives; and the quality assurance and quality control activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.
 - Includes specific performance criteria and measures that shall be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc.) shall be created for the project, the QAPP must describe how the database or electronic tool shall be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database).
 - Explicitly references tools, such as SOPs, checklists, and guidelines that the contractor shall use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review and acceptance.
 - Addresses the following general questions:
 - What is the objective/goal of this effort?
 - What are the roles and responsibilities of staff who shall support this project, and how to they relate to the specific key steps
 - What training and competency requirements are necessary for key personnel that shall support the project?
 - If models shall be used to support the project, what are these models, why have they been selected, and how shall they be validated, documented, and used?
 - What are the SOPs, tools and checklists that shall be used?
- **Under no circumstances shall work that involves the generation, collection, evaluation, analysis, or use of environmental data be performed without an approved QAPP (or addendum) in place 50 work days after submission of the contractor's work plan.**
 - Under no circumstances shall field sampling or laboratory analysis activities be conducted prior to receipt of an approved work plan.
 - Any non-sampling/non-analytical work that involves the generation, collection, evaluation, analysis, or use of environmental data that is initiated prior to approval of the contractor's QAPP must be performed in accordance with the approved QAPP. (The QAPP requirements must be applied retroactively to this period that lasts no more than 50 work days from submission of the contractor's work plan.).

Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public.

Information contained in the approved QAPP must be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the contractor designates as confidential so that the EPA WAM can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed.

Additional QA Documentation Required

In addition to the QAPP requirements described above, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the contractor under this work assignments must include a discussion of the QA/QC activities that were or shall be performed to support the deliverable. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

Deliverables and schedule for QA Tasks

Existing QA Plans:

- a. The contractor shall review the WA 2-14 QAPP and WA 1-09 QAPP and:
 - verify that the QAPP is still appropriate for use; or
 - recommend revisions.
- b. The contractor shall notify the EPA WAM at any time during the work assignment if changes to the QAPPs are warranted (e.g., due to organizational changes, revised technical approaches).
- c. If the EPA WAM provides technical direction that revisions are determined to be necessary, the contractor shall submit a revised QAPP, including the revision summary, within 10 to 15 work days, depending on the complexity of the changes. When preparing this revised version, the contractor shall ensure that it is written in an active voice and shall include a version history page that summarizes changes made. The contractor also shall provide EPA with copies of any modified SOPs or checklists. EPA shall review the revised QAPP and provide the contractor with written approval or comments within 15 work days of receiving the contractor's submission.

Reporting Requirements:

- a. The contractor shall include a QA/QC section within each major deliverable (as specified above)
- b. The contractor shall provide monthly summaries of QA/QC activities (may be included as part of the progress reports).

TASK 2 – DELIVERABLES	
Deliverable	Due Date
QAPP Review (verify/recommend)	Within 10 work days after submittal of the contractor's work plan.
Email recommending changes to QAPP	Any time during the WA, if warranted
Revised QAPP	Within 10 to 15 days, per technical direction, depending on complexity of revisions
QA/QC section in all major deliverables	Per schedule for major deliverables
QAPP progress reports	One per month (may be included in progress report)

Task 3: Impingement Data and Analyses

The contractor shall continue to support EPA in evaluating new data and comments that are relevant to impingement. The contractor will need to differentiate between impingement studies that report (1) impingement rate; and (2) impingement mortality. EPA may decide to set limits for one, both, or a combination of the two. The contractor should also be able to identify where a study is in fact NOT an impingement study, but rather it is a biological characterization or source water study. The contractor shall support EPA in evaluating and revising the proposed impingement limits described in Chapter 11; its appendices in the Technical Development Document

(<http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/upload/technicaldevelopment.pdf>); and adjustment factors described in the NODA. EPA intends to focus on the impingement data for the same technologies considered in the proposal. In supporting EPA, the contractor shall:

- a. Handle any Confidential Business Information (CBI) in accordance with the approved CBI Plan submitted under WA 2-14. The contractor shall revise the CBI Plan per technical direction and if the OST CBI Plan is updated. None of the information previously provided to the contractor for impingement-related analyses has been CBI; however, it is still possible that the EPA WAM might provide the contractor with CBI related to impingement data. (None of the other tasks in this WA will require use of CBI.)
- b. Update the database for impingement, as directed by the EPA WAM, to include new data sources and correct/expand data identified in WA 2-14 by:
 - Applying the data extraction template used in WA 2-14.
 - Updating the Access database from WA 2-14.
- c. Provide timely notification to the EPA WAM of any data and data issues (e.g., data

- quality, integrity, and completeness), especially those that need to be resolved before the analyses can proceed.
- d. Provide memoranda describing the following analyses/results and associated QA documentation (this is an iterative process with several versions expected of each memorandum, with purpose and revisions specified by the EPA WAM in written technical direction):
- i. Revised summary statistics and limitation values.
 - ii. Effects of different data criteria (e.g., relaxing the holding time requirements from 48 hours to none) on the impingement summary statistics and limitation values.
 - iii. Recommendations, implementation, and evaluations of different statistical approaches (e.g., survival analysis, adjustments for other variables) and data assumptions that may produce meaningful benchmarks or limitations for technology performance.
 - iv. Intra-facility variation to the extent that the data support the analyses.
 - v. Recommendations and supporting statistical analyses for responding to the proposal and NODA comments related to statistics, data selection criteria, species sensitivities, adjustment factors, and the impingement data. This support includes an assessment of the extent to which high impingement rates are truly episodic.
 - vi. Additional statistical reviews and analyses to respond to management concerns and newly presented information.
- e. Review EPA's versions of Chapter 11 to:
- Verify that the information about the analyses and data is correct.
 - Provide suggested language to correct and/or clarify the discussions.
- f. Revise Chapter 11 tables and impingement appendices to match EPA's final data selection and performance parameters (e.g., benchmarks, limitations):
- i. Tables in Sections 11.1 and 11.2 (i.e., impingement sections).
 - ii. Appendix A's Exhibits A-1 and A-2 (study data should only include impingement data sources)
 - iii. Appendix C's Exhibit C-1 (impingement data)
 - iv. Appendix D (statistics)
 - v. Any additional tables, sections, or appendices resulting from EPA's changes to the proposed to final impingement requirements.
- g. Provide record documents specified by the EPA WAM in written technical direction. The documents will include:
- vi. An Excel spreadsheet with the final selection of impingement data.
 - vii. Final documentation, confirmation that approved QA procedures were followed, data extraction template, checklists, databases, computer programs that support the discussion in the revised Chapter 11 with flowcharts showing the relationships between each component.
 - viii. Others per technical direction that are revisions of other deliverables provided under the work assignment.
- h. Track and report the LOE and costs separate from the other tasks on this work assignment.

TASK 3 -- DELIVERABLES	
Deliverable	Due Date
a. Adhere to CBI handling requirements	• Ongoing. Revisions to CBI Plan within 5 work days after EPA's determination that significant changes warrant revision
b. Updated database with appropriate meta-data (e.g., version date, variable names)	• Periodically per written technical direction after consultation with contractor on progress of data extraction.
c. Email or memorandum identifying data issues	• At time identified by the contractor
d. Memoranda	• 1-15 work days per technical direction, depending on complexity and urgency. Revisions within 1-10 work days per technical direction depending on extent of revisions and urgency.
e. and f. Memorandum with tables, comments, and suggested revisions	• 1-15 work days per technical direction, depending on complexity and urgency. Revisions within 1-10 work days per technical direction depending on extent of revisions and urgency.
g. Record documents	• At end of period of performance of work assignment. Earlier delivery if specified in written technical direction with a minimum of 5 work days for delivery.
h. LOE and cost reports	• Monthly with progress report.

Task 4: Fish Study Report (limited to 200 hours):

The contractor shall not proceed with this task until the WAM issues technical direction. In consideration of peer review comments, the contractor shall revise the draft document titled *Assessing Mercury Tissue Levels at Existing Fish Consumption Advisory Sites* (the WAM will provide the contractor with the electronic draft document and associated QAPP). In performing this task, the contractor shall:

- a. Teleconference to discuss peer review comments and report revisions.
- b. Revise the draft document.
- c. Incorporate the WAM's comments on the revised draft into a final draft. The contractor shall provide:
 - One (1) electronic file in original software;
 - One (1) electronic pdf file that is Section 508 compliant; and
 - Five (5) bound hard copies generated from the pdf file with a memorandum that includes this statement: "Electronic copies provide an exact replica of the paper copies."
- d. Track and report the LOE and costs separate from the other tasks on this work assignment. The contractor shall not exceed 200 hours on this task.

TASK 4 – DELIVERABLES	
Deliverable	Due Date
a. Teleconference with EPA WAM to discuss peer review comments and report revisions	• Within 5 work days of WA initiation. EPA WAM will specify date/time upon consultation with contractor.
b. Revised draft document in electronic format	• Within 30 calendar days of receiving written technical direction and peer review comments.
c. Final draft document in electronic and hardcopy formats	• 10 work days after receiving EPA WAM's written comments on the revised draft document.
d. LOE and cost reports	• Monthly with progress report.

Task 5: Benthic Quality Assurance:

The contractor shall not proceed with this task until the WAM issues technical direction. The contractor shall compare and document QA/QC checks for internal taxonomy accuracy on based upon comparisons of primary and secondary laboratory evaluations of samples for benthic macroinvertebrates. In addition, the contractor shall document relevant QA activities in any deliverable.

- a. **Reconciliation:** For each sample, the contractor will compare the taxonomic results (counts AND identifications) generated by the laboratory and the QC taxonomist. The comparison shall evaluate the percent disagreement in enumeration (PDE) and percent taxonomic disagreement (PTD) calculated as shown in the NCCA Laboratory Manual. The contractor's project facilitator shall coordinate conference calls with the primary and secondary taxonomists and EPA to reconcile the results for which the PDE and/or PTD differ by more than 15%. Before the meeting, the project facilitator shall provide the list of samples and the results to be reconciled to the primary lab and EPA. At the conclusion of the call and/or after the secondary lab has completed any additional reassessment that the contractor deems necessary, the project facilitator shall transfer the appropriate samples to the primary lab. If it does not appear that the primary lab will be able to reconcile the results to meet the 15% requirement, the contractor shall provide EPA with a memorandum that summarizes the teleconference(s) and provides recommendations for next steps. (EPA will issue an amendment if it is necessary.) It is anticipated that only 1-2 calls will be required, because most would have been completed under WA 2-11.
- b. **Transfer:** The project facilitator will coordinate return of the samples, with chain-of-custody forms, from the secondary laboratory to the primary laboratory.
- c. **Report:** For the draft report or technical memorandum delivered at the end of WA 2-11, the contractor shall incorporate the WAM's comments into a final report. Also, the contractor will provide a final database with the secondary and reconciled bench sheets and data. The contractor shall continue to use the established database structure for NCCA.
- d. **Track** and report the LOE and costs separate from the other tasks on this work assignment.

TASK 5 – DELIVERABLES	
Deliverable	Due Date
a. Reconciliation teleconferences	Dates and times depend on availability of EPA WAM and laboratory representatives
a. List of samples and results	Prior to teleconference. Revisions after primary and secondary labs reconcile their results.
b. Copies of chain-of-custody forms emailed to EPA documenting transfer of samples back to primary laboratory	With final report.
c. Report	Final version 10 work days after receiving EPA comments.
c. Database	With final report.
d. LOE and cost reports	Monthly with progress report.

Task 6. Conduct Peer Review

The contractor shall identify and select peer reviewers; conduct the peer review; prepare a summary of the reviewers' comments; and consolidate EPA responses to the peer review comments.

- a. **Identify Peer Reviewer Pool:** The contractor shall prepare and submit to the EPA WAM the credentials (e.g., curriculum vitae) of seven to eight nationally recognized technical experts who are qualified to independently peer review the draft NRSA reports according to EPA's peer review guidelines. The potential pool of peer reviewers shall include experts outside of EPA with experience in one or more of the following: 1) water resource monitoring and reporting at a national scale; 2) river/stream condition assessments using biological, water chemistry or physical habitat indicators; and 3) any other area identified by the EPA WAM in written technical direction. Expertise may be demonstrated by publication in scientific journals or known research professional or experience. The peer review panel shall not include any experts that directly or indirectly contributed to the analysis used in the report. The EPA WAM will forward names of suggested candidates, but the contractor is not obligated to obtain their services.

The EPA WAM will review and approve the potential pool of peer reviewers based on their credentials and expertise to fulfill the role of peer reviewers of EPA technical documents. The EPA WAM may reject the use of a particular candidate based on qualifications, conflicts of interest, or past direct involvement with the work under review. If the contractor deems necessary, the contractor shall find suitable replacements to bring the pool back to an acceptable number of candidates. The EPA WAM shall review and consent to the qualifications of the final list of peer reviewer candidates, but the ultimate selection of peer reviewers from the approved pool shall be the responsibility of the contractor.

Following the WAM's approval of the peer reviewer pool, the contractor shall select four peer reviewers and determine their availability for the task. The contractor shall select reviewers that collectively from each of the areas of expertise described above.

- b. **Prepare Charge for Peer Review:** The contractor shall revise the draft letter and charge presented in the Appendix. The contractor also shall develop a template for reviewers to use in responding to the questions in the charge. The contractor shall incorporate EPA's comments into revisions.
- c. **Conduct Peer Review:** The contractor shall distribute the draft NRSA reports (and any other documents EPA identifies such as appendices) and the revised charge, questions, and template to Peer Reviewers (provided by EPA) to each selected peer reviewer. The contractor also shall provide to the peer reviewers any supplemental information requested by the reviewers and deemed necessary by the EPA WAM to complete a thorough review.

Peer reviewers shall conduct their review according to the guidelines detailed in the charge. The contractor shall inform all selected peer reviewers that there shall be no contact with EPA personnel or authors or contributors acknowledged in the draft report. The contractor also shall inform the peer reviewers that the findings of the draft summary NRSA report will not be shared with any other individuals or groups.

The contractor shall coordinate with the peer reviewers and monitor peer reviewers' progress to complete the review within the required time and LOE constraints in the approved workplan. EPA assumes that a single peer review would take a total of 40 hours or less.

Reviewers shall be allotted **4 weeks (i.e., 20 work days)** in which to conduct their review. Peer reviewers shall submit their comments and respond to the specific questions posed in the charge electronically to the contractor. In turn, the contractor shall forward to the EPA WAM each peer reviewers' comments with a brief summary of key comments. The contractor shall assist in contacting reviewers if necessary to clarify reviewers' comments.

- d. **Prepare Peer Review Report:** The contractor shall assemble the peer review comments and prepare a summary report. The report shall include: (1) an introduction that clearly and concisely provides an overview of the comments, (2) a summary of the reviewers' responses to the specific questions outlined in the peer review charge document, (3) a summary of key peer reviewers' recommendations of changes or revisions required to improve clarity and scientific accuracy of the document, (4) any new information or data provided by peer reviewers that potentially improves the quality of the document, and (5) any additional materials submitted by peer reviewers. The contractor shall also include as an appendix all unedited peer review comments. The contractor shall submit the draft report to the EPA WAM electronically.

The EPA WAM and EPA technical experts will review the draft peer review report submitted by the contractor for clarity and thoroughness. At the EPA WAM's request for clarification, the contractor shall contact the peer reviewer and obtain the needed clarification. Following EPA's review of the draft peer review report, the contractor shall make any appropriate edits identified by EPA staff and resubmit to the EPA WAM a final peer review report. The WAM's comments will in no way be technical in nature or question the opinions of the reviewers.

- e. **Consolidate EPA's response to comments: The contractor shall not proceed with this subtask until the WAM issues technical direction.** The contractor shall consolidate EPA's response to comments into a format suitable for public review.
- f. **Track:** Track and report the LOE and costs separate from the other tasks on this work assignment.

Task 6 -- DELIVERABLES	
Deliverable	Due Date
a. List of potential reviewers and qualifications	July 16, 2012
a. Select 4 peer reviewers, and provide them with materials for review	2 work days after receiving comments from EPA WAM
b. Letter, Charge, and Reviewer Template	10 work days from start of Work Assignment. Per technical direction, revisions within 1 to 5 work days, depending on complexity and urgency.
c. Complete peer review	20 work days after peer reviewers receive documents for review.
c. Draft comments from each peer reviewer with brief summary of key comments	Two work days after contractor receives comments from the peer reviewer.
d. Peer review report	10 work days after contractor has received all of comments from peer reviewers. Per technical direction, revision due within 1-5 work days, depending on urgency and complexity.
e. Draft format (i.e., without contents) for response to comments	5 work days after receiving technical direction to proceed with subtask.
e. Consolidated summary of EPA's response to comments	Per technical direction, 5-15 work days depending on the complexity of the format and number of comments. Per technical direction, revisions within 1-5 work days, depending on extent and complexity of EPA comments.
f. LOE and cost reports	Monthly with progress report.

Task 7. TNSSS Statistical Analyses

The contractor shall not proceed with this task until the WAM issues technical direction. The contractor shall provide the following support related to the TNSSS data:

- a. Unless EPA previously approved it, the contractor shall revise the QAPP developed under WA B-5, Contract EP-C-05-030, to be consistent with the level of detail and language developed for WA 2-14 under this contract. EPA must approve the revised QAPP before additional work starts on this task.
- b. The contractor shall provide recommendations for which of the remaining 111 analytes, not previously analyzed, have enough data to perform the same types of statistical analyses that were performed for the original 34 analytes.
- c. The contractor shall identify outliers and questionable data by reviewing data listings and summaries, applying statistical methods, and using graphical methods. The contractor also shall review the data for missing values, censoring patterns, and appropriate units of measure (e.g., milligrams/liter). The contractor shall immediately notify the WAM of any deficiencies and/or concerns about the data quality, integrity, and completeness that require EPA resolution.
- d. For the analytes identified by EPA, the contractor shall provide draft outputs of the statistical analyses.
- e. The contractor shall revise the April 2009 report to include the analytes identified by EPA. The contractor shall incorporate EPA's comments into a second revision and final version.
- f. If any changes are incorporated into the database, the contractor shall provide a new version of the Excel spreadsheet that corresponds to the data presented in the final report. The final report shall reference the appropriate version of the spreadsheet (e.g., the 2009 version if no changes are necessary).
- g. The contractor shall provide the computer programs and input data files used to produce the results in the final report.
- h. Track and report the LOE and costs separate from the other tasks on this work assignment.

TASK 7 – DELIVERABLES	
Deliverable	Due Date
a. QAPP	Signature page for QAPP from WA B-5. Otherwise, revised version within 10 work days after submittal of the Contractor's work plan or receiving technical direction to start task, whichever date is later.
b. Memorandum with recommended analytes for statistical analysis	10 work days after receiving EPA's approval of the revised QAPP.

TASK 7 – DELIVERABLES	
Deliverable	Due Date
c. Data quality	Immediately when identifying data issues (e.g., outliers) that require EPA resolution before the contractor can provide deliverables. Otherwise, included in documentation for other deliverables.
d. Draft outputs	One subset 20 work days after EPA identifies analytes for statistical analysis. Second subset 10 work days later. Revisions Per technical direction, revisions in 5-10 work days.
e. Draft, revised, and final report. (Draft provided in MicroSoft Word. Revised and final provided in both MS Word and pdf formats)	15 work days after EPA accepts draft outputs. Per technical direction, revised version and final version 10-15 work days after the EPA WAM provides comments. Length of time depends on extent of revisions.
f and g. Updated spreadsheet with appropriate meta-data (e.g., version date, variable names) and computer programs with flowchart documenting relationships between data and programs.	10 work days after EPA accepts the final report.
h. LOE and cost reports	Monthly with progress report.

III. PERIOD OF PERFORMANCE: This work assignment will start on the date of the contracting officer's signature and extend through **June 22, 2013**.

IV. LEVEL OF EFFORT: This work assignment shall require **1050 professional hours**. Clerical hours are not included.

V. EPA CONTACTS:

Work Assignment Manager (WAM):

Marla D. Smith
phone: 202-566-1047
e-mail: smith.marla@epa.gov

Alternate WAM:

Lisa Biddle
phone: 202-566-0350
e-mail: biddle.lisa@epa.gov

USPS Address (for WAM):

U.S. EPA (4503T)
1200 Pennsylvania Avenue, NW

Washington, DC 20460

Overnight Courier Address (for WAM):

U.S. EPA
7313C EPA West
1301 Constitution Avenue, NW
Washington, DC 20004

APPENDIX – DRAFT CHARGE and QUESTIONS FOR TASK 6

National Rivers and Streams Assessment: Summary and Technical Reports PEER REVIEW

Survey Background

Several years ago a number of water quality monitoring reports highlighted EPA's inability to make scientifically valid statements about water quality on a national scale. In response, the EPA and states initiated the National Aquatic Resource Surveys (NARS). In particular, the surveys were initiated to provide answers and insight to the following: 1) What percentage of the nation's waters is in good/fair/poor condition, and 2) What is the relative importance of stressors in the assessment of condition.

The surveys are designed to assess the condition of the nation's waterbodies using a probability-based approach on a five-year rotating basis, with one waterbody type under assessment in each year. Rivers and streams, the fourth waterbody type to be surveyed under this program, were sampled in 2008 and 2009. The key feature of the probabilistic design is the random selection of sample sites to represent the target population of rivers/streams on a national and ecoregional scale. The primary objective of the assessment is to characterize the chemical, biological, ecological condition, and recreational suitability of rivers and streams throughout the conterminous United States incorporating consistent field and laboratory methods and a vigorous QA/QC program. Trained field crews took water samples, recorded data, and made physical habitat observations based upon approximately 2,400 sites across the country. EPA has drafted a summary report for the general public and a companion, technical report for the scientific community. The technical report is to be considered supplemental material that explains technical underpinnings of the NRSA. The summary report conveying the findings of the assessment is scheduled to be released for public comment by the end of this calendar year.

Charge to Reviewers

Prior to its December release, the NRSA reports are being reviewed in three stages. The first is a review by EPA's state partners that is being conducted simultaneously with second stage. The second stage of the process, in which you are being invited to participate, is the peer review. This peer review is important to ensure that the information contained in the reports is scientifically credible. The peer review also is important in evaluating whether the summary report will be easily understood by people who may have a vested interest in rivers and streams nationally or on a local scale. The third stage is the release of the draft summary document to the general public for final comment via the web.

The draft NRSA reports are a culmination of effort from EPA, States and Tribes, and input from rivers and streams experts from various academic and/or scientific institutions. While the subject matter is somewhat technical in nature, the summary report itself is intended for the "environmental policy or educated layperson" – the type of person who may work at the policy level in environmental issues, or alternately has a dedicated interest in river/stream water resource quality concerns. EPA is also including a Technical Report intended for those people

who would like a more in-depth explanation into the analytical underpinnings of how the assessment was derived. EPA is asking that your review comments focus specifically on: technical content, completeness and clarity, plus scientific soundness of the Summary Report. EPA is asking that you limit your review to an assessment of whether the:

- Methodology is acceptable, even if it may not be the "best" of all possible choices;
- Findings are scientifically reasonable and logical outgrowths of the data and methodology; and
- Presentation is consistent with the scientific underpinnings.

EPA is not requesting comments on:

- Formatting unless it is misleading or apt to be confusing to the reader;
- Indicator selection because it resulted from extensive collaboration with many parties;
- Data selection, other than in the context of the particular analysis (i.e., the focus is on the data that has been collected, not alternatives for collecting additional data);
- Reference site selection as described in Chapter X, because many alternatives could be considered reasonable. However, it is appropriate to comment on reference site assumptions and adjustments for a particular analysis; and
- The Technical Report unless it is inconsistent with the summary report or presents inappropriate methodologies.

This document should be considered confidential and should not be shared with other individuals or groups, as it is likely to change as a result of state and peer review.

EPA asks that you address the following questions in your evaluation and critique of the draft summary report.

Question 1: Does the organization and content of the summary document seem appropriate and does it present the material in an understandable manner for its target audience (i.e., general public)? For example:

- Are the goals, purpose, and design of the study clearly described for the target audience?
- An important aspect is that the reader understands that the NRSA is not assessing individual rivers and streams for those rivers/streams' attributes, but rather the population of rivers/streams at several geographic scales. Does this point come across clearly?
- Is the data presentation sufficiently clear and intuitive? We would like your thoughts on whether these data presentations work, or if other approaches would be more intuitive.

Question 2: Are the concepts of reference condition and threshold development explained and clear for the reader?

Question 3: Are the assessment thresholds sufficiently described and are they acceptable for the scale of assessment? Are the underlying approaches used in developing thresholds acceptable and based on sound scientific principles?

Question 4: Is the relationship between the stressors and biological indices adequately explained? Are the underlying approaches used in developing thresholds acceptable and based on sound scientific principles?

Question 5: Are the relationships between the assessment findings and implications discussed in the conclusions and implications chapter of interest? Has EPA missed any important connections?

Question 6: Does the report meet the stated goals and objectives of reporting on indicators that reflect the condition of the nation's rivers/streams resources and associated stressors? Is the relationship between the stressors and biological indices adequately explained? Are the underlying approaches used in developing thresholds acceptable and based on sound scientific principles?

Using the template provided to you, please answer/comment on these questions in detail. Please also raise any other scientific concerns you may have and feel free to make any other suggestions regarding presentation, findings, graphics, *etc.* that you believe will enhance the documents.

Reviewer Recommendation

Finally, please provide a recommendation. Based on your reading and analysis of the information provided, please identify your overall impression of the National Rivers and Streams Assessment.

- a) Acceptable as is
- b) Acceptable with minor revisions (as indicated)
- c) Acceptable with major revisions (as indicated)
- d) Not acceptable (with explanation and any corrective actions)

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-05

☐ Other ☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2013

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

Technical Support for PCBs

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Tasks 3 and 4

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 06/27/2012 To 06/22/2013

Comments:



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

06/23/2009 To 06/22/2013

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Amy Hensley

Branch/Mail Code:

Phone Number 703-305-5084

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

STATEMENT OF WORK

Contract Number: EP-W-09-024, Option 3

Work Assignment: 3-05

Title: Performance Based Work Assignment -Technical Support for PCB Permits and Document Development

This Work Assignment is a continuation of work begun under Work Assignment 2-05 of this contract. No work shall be duplicated.

Background:

The Toxic Substance Control Act (TSCA) of 1976 requires EPA to develop rules to regulate the manufacture, processing, distribution in commerce, use, or disposal of chemical substances. Section 6(e) of the Act specifically names polychlorinated biphenyls (PCBs), requiring rules to specify methods for the disposal of PCBs.

Regulations promulgated in Subpart D of 40 CFR 761 authorize EPA ~~Headquarter~~ to issue PCB disposal approvals, valid nationwide, to mobile disposal facilities and fixed facilities as well as issue PCB alternative decontamination approvals. TSCA regulations delegate signatory authority to the Assistant Administrator of the Office of Solid Waste and Emergency Response (OSWER) for permits issued by EPA ~~Headquarters~~. In FY 2008, EPA transferred the administration and implementation of the Toxic Substances Control Act's (TSCA) Polychlorinated Biphenyl (PCB) Cleanup and Disposal Program from the Office of Prevention, Pesticides and Toxic Substances (OPPTS) to the Office of Solid Waste and Emergency Response (OSWER).

Individuals seeking approvals to dispose of PCBs or decontaminate PCB-contaminated materials must submit a permit application and a demonstration plan for EPA review. EPA reviews the permit application for completeness. The application must include the demonstration plan indicating a demonstration can be performed safely with a good probability of success. Once the application review is complete, EPA will require the company to demonstrate the operation of its technology under reasonable worst case operating conditions. EPA will issue an approval to operate the alternative disposal or decontamination technology once the company has demonstrated their PCB disposal or decontamination process is effective, the technology is capable of processing PCB material without frequent breakdowns, and does not present unreasonable risks to health and the environment.

Typically, PCB disposal technologies are classed into three categories, (a) incineration, (b) thermal alternative technology, and (c) non-thermal alternative technology. Alternative technologies include surface and aqueous media decontamination processes. The alternative disposal technology must be demonstrated in the presence of EPA

evaluators. During the demonstration, EPA will collect samples of materials before and after treatment to confirm the PCBs were destroyed. Upon confirmation of PCB destruction, EPA will issue an approval for the technology.

I. Purpose:

Any person wishing to dispose of PCBs must use approved methods and must obtain an approval. Several methods for disposal and decontamination are listed in §761, but alternative technologies for disposal and decontamination may be used if an approval is granted by the EPA. Persons can apply to the EPA for approval of PCB disposal by non-thermal alternative methods (§761.60(e)), alternative decontamination procedures (§761.79(h)), thermal alternative methods (§761.60(e)), and incineration (§761.70). EPA must confirm the PCB Disposal and decontamination technologies demonstrated by permit applicants comply with EPA requirements. To accomplish this, EPA will require contractor support.

At the direction of the Work Assignment Manager, the Contractor shall prepare and ship sampling kits to sites designated by the WAM. EPA will collect samples during the PCB Disposal or Decontamination Demonstration, pack the samples, and send the samples to the Contractor. The Contractor shall analyze samples collected by EPA to confirm the technologies destroy and/or remove PCBs from various waste feed matrices or materials. The Contractor shall prepare QA samples in a variety of matrices for EPA to evaluate the laboratory facilities to be used by the applicant during commercial PCB Disposal or Decontamination operation or during the PCB Disposal or Decontamination demonstration. The Contractor shall transmit preliminary analytical results of the demonstration samples to EPA. These preliminary results will assist EPA in determining the efficacy of the new disposal or decontamination technologies.

The Contractor shall develop a document that will help persons apply for approvals for alternative technologies under §761. The document will discuss requirements for approval applications, demonstration test plans, demonstration test reports, as well as describe the approval process and how to conduct a demonstration. Other elements may be requested by the WAM.

The contractor shall also develop other documents that will provide information to the regulated community on how to cleanup and dispose of PCBs in compliance with the PCB Regulations (§761). These documents will help persons apply for disposal and cleanup PCB approvals from the EPA.

II. Scope of Work:

A. PCB Disposal and Decontamination Demonstrations. There are approximately five possible demonstrations covered under this Work Assignment. Generally, EPA collects a set of samples for starting material or feed, samples of treated material and samples of process waste. At times, in addition to the standard samples for feed, process streams, and process waste, questionable process or waste streams may be

sampled to clarify regulatory status of the material. Also, blind QA audit samples may, at the direction of the WAM, be shipped to the laboratory selected to perform the permit applicant's product analysis during commercial operations. For the different types of demonstrations, the estimated number of samples and type of samples to be collected by EPA for analysis are listed below. Possibility exists that one of the demonstrations may involve sampling and analysis of low radioactive material.

1 – Alternative Thermal technology approval. Feed and treated material may contain low radioactive substances.

Samples: Liquid or non-liquid feed (3), treated material (3), water discharge (3), QA samples (3).

2 – Alternative Non-thermal technology approval. Feed and treated material may contain low radioactive substances.

Samples: Liquid or non-liquid feed material (3), treated material (3), water discharge (3), QA samples (3).

3 – Alternative decontamination approval.

Samples: Wipe samples before treatment (3), wipe samples after treatment (3), QA samples (3), water discharge (3).

B. Documents on PCB Cleanup and Disposal – PCB Any person wishing to dispose of PCBs must use approved methods and must obtain an approval. The person must first submit an application package to their EPA Regional Office or to EPA Headquarters, depending on the signing authority for their approval. For disposal approvals, demonstrations are often required, which involve submission of test plans and test results to the EPA. This Work Assignment covers the development of documents that describe the components of and level of detail needed for PCB disposal or cleanup approvals.

B. Work Tasks

Task 1. Task Management

The Contractor shall prepare and submit a work plan. Work under this task shall include participating in conference calls, meetings, preparing the monthly progress report and other task management. This assignment requires a QA/QC plan. EPA will review and ~~comment~~ ^{approve} on the work plan and the QA/QC plan within ~~30~~ ³⁰ days. This statement of work also requires the use of TSCA CBI. *30 4 receipt*

Task 2. Preparation of a QA/QC Plan.

The Contractor shall prepare a Quality Assurance Project Plan for the analysis of all collected samples during the duration of this work assignment. The Quality Assurance Plan will follow the format and requirements as specified in "EPA Requirements for

Quality Assurance Project Plans (QA/R-5)" (2001, EPA/240/B-01/003)¹. A draft of that plan will be submitted for review by the WAM. The Contractor shall incorporate the comments and submit a final version of the Quality Assurance Project Plan.

NOTE: The tasks below represent all of the possible items that may be required by EPA to support the PCB cleanup and disposal program. Written technical direction will be provided by the WAM which will specify the items and quantities needed for each permit.

Task 3. Sample Collection and Analysis

A. EPA will observe on-site the PCB Disposal or Decontamination Demonstrations and will collect samples and transfer the samples to the Contractor. The Contractor shall analyze the samples appropriately, as outlined below.

- (1) For analysis of polychlorinated biphenyls (PCBs), the Contractor shall analyze samples for classes of PCB compounds named Aroclor. These compounds include but are not limited to the following:

Aroclor 1242	Aroclor 1264
Aroclor 1254	Aroclor 1016
Aroclor 1260	

- (2) For analysis of PCBs, the Contractor shall provide analytical instrument capability and methodologies to analyze and to identify the 209 congeners of polychlorinated biphenyls.
- (3) For analysis of PCBs, the Contractor shall provide analytical instrument capability and methodologies to analyze and to identify PCBs, separating and quantitating the identified PCBs in homologs from mono- to deca-chlorinated biphenyls. The analytical standard to be used shall be the Dry Color Manufacturer Association (DCMA) standard or equivalent.
- (4) The Contractor shall transmit analytical results of the demonstration samples to EPA in three stages. First, the raw data will be submitted by telephone or email as directed by the WAM. These results will assist EPA in determining the efficacy of the new disposal or decontamination technologies. Second, the Contractor shall prepare a draft digital report. Third, after receiving comments from the WAM, the Contractor shall then prepare the final analytical results which incorporate the WAM's comments.

¹ <http://www.epa.gov/quality/qs-docs/r5-final.pdf>

(5) The Contractor shall analyze for other pollutants of interest as directed by the WAM. For example, PCBs in the U.S. is in short supply. The possibility exists that surrogates for PCBs may necessarily be used during PCB Disposal or Decontamination Demonstration. Should surrogates be used, the Contractor shall analyze samples for the surrogates. An example of a surrogate is trichlorobenzene.

B. Sample Media. The Contractor shall implement analytical methods suitable to the medium of interest. Examples of media include crankcase oil; mineral oil; solvents such as ethylene glycol; soils such as clay, sediment or sand; fly ash; and clinkers.

C. Sampling Kit.

(1) The Contractor shall provide sampling kits (described below) for each demonstration suitable for the collection of samples of various media, but not limited to bulk solids such as soil; and bulk liquids such as fuel oil, solvents and water.

(2) The Contractor shall provide a sampling kit suitable for the collection and analysis of samples from porous surfaces (concrete, paint) and non-porous surfaces (metal).

D. For thermal technologies including incineration, the Contractor may be requested by the WAM to observe the collection of samples from various process streams and obtain split samples for analysis by the Contractor.

E. The Contractor may be requested to provide personnel with appropriate experience and appropriate certificates to take the samples for any of the technologies and any of the media.

F. The Contractor shall submit a preliminary analysis to the WAM for review and comment. Upon receipt of the comments the Contractor shall incorporate the comments into the final report.

Task 4. PCB Disposal and Decontamination Demonstration Requiring Review of Sampling Protocols

A. For thermal technologies including incineration, the Contractor may be requested by the WAM to review the applicant's demonstration trial burn plan, to determine/plan the work schedule. Contractor should already be familiar with the process and equipment, from previous work with identical incinerator equipment.

- B. For thermal technologies including incineration, the Contractor may be requested to determine if the applicants' stack emission sampling protocols to be used during the trial burn comply with EPA standards.

Task 5. Sampling Kit for PCB Disposal and Decontamination Demonstrations

The Contractor shall provide, at the direction of the WAM, a sampling kit for EPA PCB Disposal or Decontamination technology evaluators. Sampling items are to be shipped in a cooler ranging in size from one (1) gallon to ten (10) gallons, as appropriate. Packing material must be provided and used as appropriate to minimize breakage of items.

At minimum, the following items shall be provided in the shipping cooler:

- A. Traceability Log Forms (3 sheets minimum)
- B. Quadruplicated bar codes in self-adhering format (3 sheets - 15 codes minimum per sheet). Traceability forms must accommodate bar codes and sample description.
- C. Labels for sample containers to identify samples.
- D. Disposable gloves (12 pairs minimum)
- E. Wide mouth 100 ml. sampling jars, or 40 ml. vials "VOC" sampling type, or a mixture of jars and vials as specified by WAM.
- F. Spatulas, two medium size, metal
- G. One fine tip marker, waterproof
- H. Two writing pens, ball point or fine felt tip
- I. "Blue ice" or chemical ice pack for sample preservation
- J. Evidence tape, 2 feet in length
- K. Shipping bill or air bill prepared for shipping samples to Contractor on overnight basis
- L. "Zip locking" plastic bag to protect documents
- M. Extra sampling containers in case of breakage or process anomaly
- N. Paper towels, e.g. "Kimwipes"

Blind QA audit samples shall be prepared to evaluate laboratory(s) designated by applicants to analyze samples for the demonstration or for commercial operations. The audit sample(s) may be prepared using various media such as sand, oil or water. Optional items below, which are required at times, specified by the WAM, for specific projects.

- O. One-liter jars for aqueous samples, quantity to be specified.
- P. Wipe Sampling Kit:
 - (1) Folded cotton gauze pad (e.g. 4"x4"), inserted in 100 ml wide mouth jar
 - (2) Gauze pad saturated with solvent (e.g. hexane)
 - (3) Template for wiping 100 centimeter square area or as specified
 - (4) Template disposal or reusable, as specified
 - (5) Quantity to be specified by WAM
 - (6) Solvent to be specified by WAM
- Q. Spoon or other instruments for sampling

Task 6. Further Development of Document on PCB Cleanup and Disposal Approval Applications

Further develop and update a document entitled "Guidelines for Approval Applications and Demonstration Test Plans for PCB Disposal by Non-Thermal Alternative Methods, Thermal Alternative Methods, and Incineration."

The Contractor shall develop a final document which may be distributed to persons desiring a PCB Disposal Approval. The Contractor shall incorporate comments from Regional Offices and Headquarters on the draft documents, as directed by the WAM.

Task 7. Develop documents on PCB Cleanup and Disposal.

As directed by the WAM, the Contractor shall develop documents which may be distributed to persons desiring PCB cleanup or disposal approvals. The contractor shall prepare a draft of the document. The Contractor shall incorporate comments from Regional Offices and Headquarters into the draft document, as directed by the WAM.

III. Deliverables:

¹⁵
the work assignment
Task 1. Within ~~30~~ days of issuance of ~~contract~~, the Contractor shall submit a Work Plan for review and acceptance.

¹⁵
Task 2. Within ~~30~~ days of issuance, the Contractor shall submit a QA/QC Plan for review and acceptance.

Task 3. Results. Within two weeks of receipt of samples unless otherwise approved by the WAM, Contractor shall submit raw data of the sample chemical analysis. These raw data shall be transmitted in the form of a phone call or email as directed by the WAM. Within three weeks of the receipt of the samples the Contractor shall provide a draft digital report of the chemical analysis. When the Government provides comments on the draft digital report the Contractor shall produce a final report within 30 days of the receipt of the Government's comments. The final report shall be in pdf or other format (.doc) as specified by the WAM.

Task 4. Within 20 days of receipt of a copy of the permit applicant demonstration plan, the Contractor will review and submit a summary report of the demonstration plan.

Task 5. Within 7 days of request by the WAM, the Contractor will ship a sampling kit to the demonstration site for use by EPA or its representative.

Task 6. Within 30 days of receiving the draft document to be developed, the Contractor shall give a draft for EPA review, both hard copy and electronic copy. Upon receipt of comments from the WAM, the Contractor shall incorporate those comments within 30

days. After the WAM specifies that no further comments are forthcoming, the Contractor shall submit a final document in Microsoft Word format or other format as specified by the WAM.

Task 7. Within 30 days of receiving direction from the WAM to develop and update the document, the Contractor shall give a draft for review, both hard copy and electronic copy. Upon receipt of comments from the WAM, the Contractor shall incorporate those comments within 30 days. After the WAM specifies that no further comments are forthcoming, the Contractor shall submit a final document in Microsoft Word format or other format as specified by the WAM.

A Work Plan is required.

EPA will approve the work plan within ³⁰~~45~~ days.

A QA/QC plan is required

CBI does apply.

This work assignment relates to "Task 3. Sample Collection and Analysis" and "Task 4. PCB Disposal and Decontamination Demonstrations Requiring Review of Sampling Protocols" of the current Statement of Work (SOW) of the contract.

The contractor's performance shall be judged by 1) timeliness in meeting the four week deadline for submission and 2) completeness by including all the required QAP elements. See section on Performance Measures below.

Performance Measures:

The government shall review the promptness of submitting the Field Study QAP as required in this WA. If the contractor is late by more than 14 calendar days, from the due date specified in the WA, on the QAP, the government shall take a 10% reduction in the fee associated with the QAP. The reduction shall be applied to all fees, both the paid fee and unpaid fee.

The government shall review the completeness of the QAP as required in this WA. If the contractor's QAP is missing one or more of the required elements, as listed in the WA, the government shall take a 10% reduction in the fee associated with this WA. The reduction will be applied to all fees, both the paid fee and the unpaid fee.

The government shall review the results of the physical testing as required in the Tasks of this WA. If the contractor has failed to perform the physical testing in accordance with the latest approved QAP for that element, the government shall take a 30% reduction in the fee associated with that work. The reduction will be applied to all fees, both the paid fee and the unpaid fee.

IV. Period of Performance:

This work assignment will start on the date of the contracting officer's signature and extend through June 1, 2013. ~~The work assignment can end earlier but cannot go past June 22, 2013.~~

V. Level of Effort:

This work assignment shall require 315 professional hours.

VI. EPA Contact:

Work Assignment Manager:

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Courier Service Address:
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2733 S. Crystal Drive
Room N-6331
Arlington, VA 22202

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-06

☐ Other ☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2013

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

See comments.

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 07/26/2012 To 06/22/2013

Comments:

Converting Work on Predicting Community-Level Childhood Lead Exposure Predictions from Census Tract Level to a Finer Scale (b)(4), incorporating other states's data, and Gathering Water Data.



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

06/23/2009 To 06/22/2013

Cost/Fee:

LOE:

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Brad Schultz

Branch/Mail Code:

Phone Number 919-541-3881

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

Contract EP-W-09-024

WA 3-06 Statement of Work: Supplementing local lead data: supporting community-level assessments through fine-scale modeling

"This is a continuation of work begun under work assignment 2-06 of this contract. No work shall be duplicated."

Level of effort: 310 hours

Background: Some cities or counties undertake extensive blood-lead screening which, among other things, allows for a characterization of childhood lead exposure in their communities. Such screening, however, is not universally conducted, and most communities are left without an understanding of their local childhood lead exposure. Many community groups, such as a number of grantees in the EPA Community Action for a Renewed Environment (CARE; www.epa.gov/care) program and in environmental justice efforts, are interested in knowing their community's lead exposure and its impact. In addition to providing lead exposure information to communities, it is anticipated that the results could provide information for identifying communities at risk, for assistance in targeting enforcement, and related efforts. This work assignment is intended to assist in supplementing modeling work being conducted in-house in EPA's Office of Research and Development, National Exposure Research Laboratory (NERL).

EPA/ORD is conducting research to estimate blood-lead levels at the individual and census tract level nationally from NHANES data and other data sources. The intent is to provide a fairly rough estimate where only limited blood-lead screening data is available for communities, and the Regions they serve (so they can consider childhood lead exposure along with other issues in risk prioritization efforts in the CARE program) and for other uses. A general description of these efforts may be found at epa.gov/heasd/communities and www.epa.gov/heasd/c-ferst, including the journal articles referenced there, especially V.G. Zartarian, B.D. Schultz, T.M. Barzyk, M. Smuts, D.M. Hammond, A.M. Geller (2011), "The EPA's Community-Focused Exposure and Risk Screening Tool (C-FERST) and Its Potential Use for Environmental Justice Efforts," *American Journal of Public Health* and Zartarian V., and Schultz B. (2010), "The EPA's Human Exposure Research Program for Assessing Cumulative Risk in Communities," *Journal of Exposure Science and Environmental Epidemiology* 20(4): 351-358. C-FERST is growing in visibility and demand, and supports the Administrator's priorities, including (1) Cleaning up our communities, (2) Expanding the conversation on environmentalism and working for environmental justice, and (3) Building strong state and tribal partnerships. This specific work assignment is intended to parallel such efforts as those of the National-scale Air Toxics Assessment (epa.gov/nata) for air toxics, radon and environmental tobacco smoke (ETS), for example, with initial work on ETS described in Chahine T, Schultz B, Zartarian V, Subramanian S V, Spengler JD, Hammitt JK, Levy JI, "Modeling geographic and demographic variability in residential concentrations of environmental tobacco smoke using national datasets," *Journal of Exposure Science And Environmental Epidemiology* (2011).

It is critical that modeling products be evaluated with real-world measurements data, which this proposed effort does. Model evaluation is a central scientific goal of C-FERST (epa.gov/heasd/c-ferst). Testing modeling results with childhood lead exposure measurements data is valuable given the extensive Regional and community interest and the remaining health burden from lead, especially in high-risk communities, and which has not been well-defined to date. EPA Regions are also interested in targeting resources and enforcement activities in high risk areas, as defined by environmental exposure indicators which have relevance to health effects; these indicators (that is, the modeled lead exposure estimates) will be more valuable if evaluated against local data. Additionally, in a few locations there is local blood-lead data, and some of these locations appear to be high risk areas. It will be beneficial to have an integrated approach which can utilize both nationally-modeled estimates and local data rather than a piecemeal approach. Finally, the EPA's new screening tool to determine which areas will be targeted for environmental justice activities (EJSCREEN) has recently decided to use the census block group level as its unit of analysis. Thus, previous work at the census tract level needs to be modified to predict at the census tract level and compare a variety of potential predictors with actual blood-lead measurements.

Statement of work: The contractor shall compare NERL-modeled estimates of childhood lead exposure at the census block group or census tract level. (The NERL estimates will be derived from a combination of data from the National Health and Nutrition Examination Survey (NHANES), US Census, and environmental estimates.) Bradley Schultz of ORD/NERL will provide the contractor with the local-scale estimates or model form and parameters with which to calculate the local scale estimates. It is anticipated that census tract level estimate will be in the form of a census tract geometric mean (in micrograms/dL) and that model-based distributions of lead exposures will be calculated; those will then be compared with the local exposure data which Battelle has or will obtain. The local data will, at minimum, include Springfield, MA, the rest of MA, and at least one other state or local area, agreed upon with the Work Assignment Contracting Officer's Representative (WACOR). In addition to Springfield, MA, CARE Regional case studies are beginning in Portland, ME, Brooklyn, NY, and Minneapolis, MN, and these would be ideal settings from the standpoint of rapid application.

In addition to model comparison, the contractor shall implement a Bayesian updating of the national model with local measurement data. The model needs to be simple enough for application in other communities by EPA Regional Offices, and local health departments of a mid-size or larger city or county (i.e., population of greater than 200,000). The contractor shall implement this "updating" at the community, or collection of census block groups, as well as the individual level. The contractor should be aware that updating is being performed for several environmental stressors.

The work shall be broken into four tasks.

Task One

The first task is to produce the contractor workplan.

Task Two

The second task is to extend previous modeling to at least a second and third state outside New England and model at the census block group level. Previous modeling has been highly successful in predicting to areas within a single state, Massachusetts, using only publicly available data but without using blood-lead data. In addition to modeling at the census block group level, evaluation of results should be performed with the data from additional states. Using census, NATA, and other predictive information available at a national scale, the model should be run across the country and compared with the NHANES public use data. If necessary, the model will be recalibrated to a national scale.

Task Three

The third task is to modify previous results on (1) predicting local-scale estimates at the census tract level using MA data, (2) updating screening level estimates with local data, in response to peer review, and (3) completing the extension of the model to the individual level, including age, year, and seasonal trends. The first modeling results were described above in this statement of work. The second results refer to the model which combines the screening-level model with locally-collected data to provide distributions of estimated blood-lead levels at the census tract level and should allow for the combination to occur at the census block group level. The resolution of the model shall be at least in 1 microgram/dL increments and shall continue to include considerations of seasonal trends and age (cf., for example, Seasonal Trends in Blood Lead Levels in Milwaukee (1996), EPA Report Number 747-R-95-010 and "Estimated Change in Blood Lead Concentration in Control Populations," Niemuth NA, Wood BJ, Schultz BD, Archives of Environmental Health (2001) Vol 56 (6): 542-551). Although this model should be statistically sound, such as using Bayesian principles, it is important that it be implementable by EPA Regional offices and large to mid-size local health departments as well through a tool such as C-FERST. An user-friendly interface is not needed as that interface will occur through other tools, but the implementation needs to be fast in a web-based tool and should be written in R, unless approved in advance by the WACOR. The third result is to extend the model to the individual level, suitable for use in epidemiologic studies such as the National Children's Study. For this third result, ease of implementation is less of a consideration, but the data is likely to be limited to only two measurements during early childhood. Demonstration of the proof of concept of this third result shall be suitable for inclusion in a publication in a peer-reviewed scientific journal, as for results (1) and (2).

Task Four

The fourth task is to obtain local water data for evaluation of their predictive power on blood-lead levels for up to nine contacts, in MA except for one other city as directed by the WACOR (WAM), as well as for inclusion in C-FERST. This data should include all measured pollutants and the census tracts or block groups primarily served by that water utility.

If not readily available to the contractor, the WAM will provide any of the references to the contractor and will obtain contractor employee access for those requested to perform work under this work assignment to the Community-Focused Exposure and Risk Screening Tool (C-FERST). Description of C-FERST can be found at: www.epa.gov/heasd/c-ferst. The (password-protected) link on the Internet is at: <https://cfpub.epa.gov/CFERST>.

A Work Plan is required

CBI does not apply

A QAQC plan is not required.

The work relates to Task I Collection and Analysis of Data of the current Statement of Work

Deliverables:

Task One: The contractor work plan.

Task Two: A. Publication-quality tables, figures, and supporting documentation to enable reproduction of results for the analysis of data at the census block group level. The analysis should be sufficient to support an article in a peer-reviewed scientific journal. Contractor staff will be eligible for co-authorship in accordance with journal guidelines.

B. A database of the blood-lead levels for each state used, without personal identifiers. The database should include the block group of each measurement, the blood-lead concentration (at least to the nearest 1 ug/dL), the month and year sampled, and the age of the child to the nearest month.

C. A file with census block group estimates across at least the contiguous 48 states, including information to support development of a metadata file meeting EPA standards. (The actual development of the metadata file will not occur under this work assignment.)

Task Three: A. Revised Tables and Figures for the three analyses developed under WA2-06, including revision from WAM review, internal EPA technical review, and journal review.

B. An updated database of the blood-lead levels for Massachusetts used in Task Three, without personal identifiers. The database should include the census tract level of each measurement, the blood-lead concentration (at least to the nearest 1 ug/dL), the month and year sampled, and the age of the child to the nearest month.

C. A file with census tract level estimates across at least the contiguous 48 states, including information to support development of a metadata file meeting EPA standards, by September 1, 2012. (The actual development of the metadata file will not occur under this work assignment.)

These files will be incorporated into the Community-Focused Exposure and Risk Screening Tool (C-FERST).

D. A data file of county-level uncertainty estimates for the estimates.

E. A working model to incorporate locally-collected data into the screening-level model. The model shall include guidance to allow for EPA Regional and other staff to operate the model. The model shall also be described in an article suitable for publication in a peer-reviewed scientific journal. Deliverables two and three are the main efforts of this work assignment.

Task Four: The database of water data.

The work shall begin when signed by the Contracting Officer and end on June 22, 2013.

Contacts:

Work Assignment Manager

Brad Schultz

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Schultz.Brad@EPA.GOV

(919)541-3881

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-07

☐ Other☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2013

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

Ottawa River Dredging

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☐

Work Assignment Amendment

☐

Incremental Funding

☒

Work Plan Approval

Period of Performance

From 06/23/2012 To 06/22/2013

Comments:

The work plan is approved at a reduced LOE/CPFF based on technical directions sent on 07/23/2012 and 07/30/2012.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee: \$0.00

LOE:

06/23/2009 To 06/22/2013

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

07/05/2012

Cost/Fee:

\$421,846.00

LOE:

3,098

Cumulative Approved:

Cost/Fee:

\$421,846.00

LOE:

3,098

Work Assignment Manager Name Richard Brenner

Branch/Mail Code:

Phone Number 513-569-7657

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name

Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

FILE

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-07								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024	Contract Period 06/23/2009 To 06/22/2013 Base Option Period Number 3	Title of Work Assignment/SF Site Name Ottawa River Environmental								
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW Tasks 1 and 3								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 06/23/2012 To 06/22/2013								
Comments: Work Assignment Initiation - A Technical and Financial Work Plan is required. There are 3,759 professional labor hours allocated for this Work Assignment.										
Accounting and Appropriations Data										
<input type="checkbox"/> Superfund <input checked="" type="checkbox"/> Non-Superfund										
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations data use EPA Form 1900-59A.										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: 06/23/2009 To 06/22/2013		Cost/Fee:		LOE:						
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee:		LOE:						
Cumulative Approved:		Cost/Fee:		LOE:						
Work Assignment Manager Name Richard Brenner							Branch/Mail Code:			
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align:right">(Signature) (Date)</div>							Phone Number 513-569-7657			
							FAX Number:			
Project Officer Name Cynthia Bowie							Branch/Mail Code:			
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align:right">(Signature) (Date)</div>							Phone Number: 202-564-7726			
							FAX Number:			
Other Agency Official Name							Branch/Mail Code:			
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align:right">(Signature) (Date)</div>							Phone Number:			
							FAX Number:			
Contracting Official Name Christine Edwards							Branch/Mail Code:			
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align:right">(Signature) 6/21/12</div>							Phone Number: 202-564-2182			
							FAX Number:			

STATEMENT-OF-WORK

CONTRACT NUMBER: EP-W-09-024

WORK ASSIGNMENT: 3-07 (Performance Based)

TITLE: Joint U.S. EPA ORD/GLNPO Post-Dredging Year-1 Remedy Effectiveness Evaluation for the Ottawa River Environmental Dredging Project

**PROJECT ADMINISTRATOR: U.S. Environmental Protection Agency
Office of Pollution Prevention and Toxic Substances
Washington, DC**

PROJECT CONTRACTOR: Battelle Memorial Institute, Columbus, OH

PURPOSE: This work assignment is a continuation of work started under Contract No. EP-W-09-024, Work Assignment 2-10. This work assignment does not duplicate any work in the previous work assignment.

INTRODUCTION AND BACKGROUND

An interdisciplinary and collaborative partnership was formed in March 2006 between the U.S. Environmental Protection Agency's (U.S. EPA's) National Risk Management Research Laboratory (NRMRL) and National Exposure Research Laboratory (NERL), both located in Cincinnati and hereafter referred to as ORD (U.S. EPA Office of Research and Development), and U.S. EPA's Chicago-based Great Lakes National Program Office (GLNPO). The original purpose of this partnership was to undertake a comprehensive joint research evaluation of the Ashtabula River (Ashtabula, OH) Environmental Dredging Project in northeast Ohio. This project was initiated in the summer of 2006, and field studies were completed in early 2012. These evaluations were conducted for 3 years following completion of dredging to track the long-term success of the selected remedy. The final report for this project is currently under preparation and is scheduled to be finished in the autumn of 2012.

Due primarily to the successful implementation of the ORD/GLNPO collaboration on the Ashtabula River Project, a second joint collaborative study was undertaken in 2009 on the Ottawa River in northwest Ohio (Toledo, OH). Under its mandate through the Great Lakes Legacy Act (GLLA) of 2002 and as implemented on the Ashtabula River, environmental dredging was again selected by GLNPO as the remedy-of-choice to remove sediment contaminated with polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and lead from elected areas of the Ottawa River. ORD and GLNPO are conducting an ongoing comprehensive evaluation of remedy effectiveness of environmental dredging as applied to the Ottawa River. This evaluation involves the conduct of a multitude of environmental measurements before (Phase 1), during (Phase 2), and after (Phase 3) dredging to characterize the effectiveness of the selected remedy in removing contaminated sediments from the river and in restoring the river's ecosystem.

The collaborative ORD/GLNPO Ottawa River Project was initiated in 2009 under WA 0-11 on this contract (Contract No. EP-W-09-024). Phase 1 activities, consisting primarily of pre-dredging sediment profile and biological indicator characterization studies, were conducted under WA 0-11 in the fall of 2009 and early spring of 2010. Dredging then began on May 3, 2010 under GLNPO's authorization from the GLLA to oversee the cleanup of contaminated sediments in the Great Lakes area. Evaluations of the performance and effectiveness of this contaminated sediment remedial process have continued during dredging (Phase 2 studies) and immediately after dredging was completed in the fall of 2010 (Phase 3 studies) under WA 1-11 of this contract. WA 1-11 work ended on June 22, 2011 during the performance of Phase 3 studies. Completion of Phase 3 studies including characterization of ecosystem response to the implemented remedy has been carried out under WA 2-10 during Option Period 2 of Contract No. EP-W-09-024, which commenced on June 23, 2011 and will end on June 22, 2012. A draft data summary report of immediate post-dredging study results will be submitted by the Contractor by the end of Option Period 2.

As was done on the Ashtabula River Environmental Dredging Evaluation Project, ORD and GLNPO also wish to continue Phase 3 post-dredging characterization work to determine the long-term effectiveness of environmental dredging for the Ottawa River. These follow-up studies for the Year-1 post-dredging period will be conducted under WA 3-07 during Option Period 3 of this contract. Pending availability of resources, ORD/GLNPO may elect to conduct additional post-dredging studies beyond this year.

SITE DESCRIPTION

The Ottawa River lies in extreme northwest Ohio, flowing into Lake Erie's western basin at the City of Toledo. The Ottawa River is a component of the Maumee River Area of Concern as defined by the International Commission. The Ottawa River is approximately 45 miles long; however, the current Ottawa River Cleanup addresses only the portions of the lower 8.8 miles of the river (defined as the Lower Ottawa River) where urban and industrial activities have had a detrimental impact on the river as a beneficial resource. Widespread influx of contaminants has resulted in significant degradation of water, sediment, and ecological habitat quality in this lower river. The primary contaminants-of-concern (COCs) at the site are polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), inorganics (principally lead), and oil and grease, although PCBs in the surface sediment are the COC on which remedial compliance is being evaluated. Contaminant removal was accomplished via environmental dredging in targeted areas in the river to pre-determined cut lines. These cut lines were established to reach the following specific post-cleanup and final goals for the remedial project area:

Post-cleanup surface-weighted average concentrations of:

- Total PCB Aroclors < 1.5 mg/kg
- Total PAHs (sum of 16 compounds) < 30 mg/kg
- Lead < 180 mg/kg

Final surface-weighted average concentrations of:

- Total PCB Aroclors < 1.0 mg/kg total
- Total PAHs (sum of 16 compounds) < 22.8 mg/kg
- Lead < 128 mg/kg.

The targeted remedial site in the Ottawa River was divided into four reaches (Figure 1). Reach 1 starts at River Mile (RM) 0.0 and proceeds southerly to RM 3.2, Reach 2 from RM 3.2 to RM 4.9, Reach 3 from RM 4.9 to RM 6.5, and Reach 4 from RM 6.5 to RM 8.8. The lower 6 miles of the Lower Ottawa River is considered a lacustrine system and is subject to flow reversals due to seiche events on Lake Erie. From Reach 4, the river generally widens as it moves downstream to RM 0.0. The steepest and most channelized sections exist in Reach 4 (average 75 ft width) that tends to exhibit the greatest flow velocities and erosive conditions. Multiple storm sewers and combined sewer overflows (CSOs) discharge to the river along Reach 4. Reach 3 is a transitional reach (average width 130 ft) that is highly impacted by three major landfills along the lower two-thirds of this section. Reaches 1 and 2 are very broad, flat, and slow moving (Reach 2 averages 600 ft in width, and Reach 1 widens to over 1,000 ft). These lower two Reaches are most subject to seiche effects; however, flow reversals have been observed southward through Reach 3.

PREVIOUS STUDIES AND ACTIVITIES

Approximately 260,000 yd³ of contaminated sediments were targeted for removal between RM 8.8 and RM 3.2 (proceeding north in order, Reaches 4, 3, and 2). No dredging was conducted in Reach 1 (R.M. 3.2 - R.M. 0.0). Neither were all of Reaches 4, 3, and 2 dredged. Rather, selected zones or Dredge Management Units (DMUs) of differing lengths and depths were targeted for dredging by GLNPO where prior sampling had revealed sediment PCB concentrations in excess of 1 mg/kg sediment (see Figure 2 for maps of Reaches 2, 3, and 4 showing the DMUs). In each reach, the DMUs are labeled beginning with A for the most southerly zone that was dredging and proceeding through the alphabet to the end of that reach.

On WA 0-11 during Phase 1 of this study, ORD collected 30 deep cores in Reach 3 only, four each in DMUs D, E, M, and N; two in DMU F; and six each in DMUs O and P to determine undisturbed sediment contamination profiles prior to dredging. Fish, macroinvertebrate, and food web (spiders) tissue sampling, organic matter sampling, and deployment of passive surrogate samplers were also carried out in Phase 1 to complete pre-dredge characterization work.

Real-time monitoring of river conditions was performed during dredging on WA 1-11 in Phase 2 when the dredge boat was moving through one of the river stretches or zones from which pre-dredging characterization sediment and water samples were collected during Phase 1. Biological indicator and macrobenthos characterization studies were also carried out during dredging on WA 1-11 in Phase 2, but over the entire river length (in both dredged and undredged zones) on which dredging was implemented.

Following completion of dredging in the fall of 2010, post-dredging (Phase 3) sampling of the sediment residual profile at full depth was immediately performed before the onset of winter under WA 1-11. Sediment core samples were taken at the same 30 locations used for pre-

dredging sediment core collection in Phase 1. Utilizing the same coring locations facilitated direct comparison of undisturbed sediment depth and contaminant profiles before dredging with residual sediment depth and contaminant profiles following implementation of the remedy

Completion of Phase 3 immediate post-dredging characterization studies and initiation of additional source tracking efforts south of the 2010 dredge zone (i.e., south of RM 8.8) in the Ottawa River were carried out in the summer of 2011 under WA 2-10 to fulfill both ORD and GLNPO objectives. The ORD post-dredging remedial effectiveness studies included collection and analysis of fish tissue, macrobenthos tissue, food web tissue, and organic matter as well as deployment, retrieval, and analysis of passive surrogate samples. GLNPO determined that additional source tracking tests were necessary south of RM 8.8 to isolate possible previously unidentified contamination zones that were not considered in the 2010 dredge plan. These studies included deployment and retrieval of sediment traps placed on the sediment bed and bivalves (Asian clams) and cannister semi-permeable membrane devices (SPMDs) suspended in the water column. Sediment from the sediment traps, membranes from the SPMDs, and tissue from the bivalves as well as food web samples (spiders) were analyzed for PCBs and PAHs

The Contractor submitted a draft report of source tracking results for ORD/GLNPO review in May 2012. The Contractor will submit a remedy effectiveness draft report summarizing Phase 3 data and key findings for ORD/GLNPO review by the end of Option Period 2 (June 22, 2012).

RATIONALE FOR THIS PROJECT

The effectiveness of a contaminated sediment remedy, particularly one as complex as environmental dredging, must not only be evaluated in the short term but also for an extended period following implementation of the remedy. Potential contaminant breakthrough and dispersion from residual undredged sediment as well as possible recontamination from suspended material and undiscovered sources will not necessarily be revealed immediately following the completion of dredging. The recovery of a site's ecosystem will take even longer to track owing to the life cycles of biological and food web indicators.

For these reasons, it is necessary to conduct post remedial studies for several years after remedy implementation. This post-remedial tracking assessment is especially vital for the biological and passive sampler measures. The studies planned for this work assignment will provide a snapshot of ecosystem recovery approximately 1½ years following completion of dredging. This evaluation will be termed Year-1 post-dredging studies. Additional remedy effectiveness follow-on studies are planned for up to 2 more years pending availability of resources.

In addition, pending the outcome of an evaluation currently underway of the 2011 source tracking project data report, a second source tracking study similar to the first one may be determined to be necessary. This potential study is incorporated in this Statement-of-Work (SOW) as Option 1.

OBJECTIVES

The objectives of this work assignment project are to undertake and complete a comprehensive set of physical, chemical, and biological measurements for the Phase 3 Year-1 post-dredging period to facilitate a comprehensive comparison with Phase 1 pre-dredging characterization and Phase 3 immediate post-dredging characterization study results.

If Option 1 is exercised, the objectives of this work assignment will be expanded to include a second tracking study to further elucidate the potential presence of additional, previously undetected sources of high-level PCB sediment contamination in the 2-mile length of Reach 5 of the Ottawa River immediately upriver (south) of the 2010 dredge zone. If the second source tracking study is deemed necessary, Option 1 will be exercised in a timely manner to permit conduct of the field work in the summer/autumn of 2012.

DESCRIPTION OF TASKS

The objectives of this remedial effectiveness project will be addressed and carried out on WA 3-07 during Option Period 3 of Contract No. EP-W-09-024 during the period of June 23, 2012 - June 22, 2013. If Option 1 is exercised, because this work will be performed on a different segment of the Ottawa River than that for the remedial effectiveness studies, it will be carried out as a separate set of tasks. Consequently, separate Technical and Financial Work Plans are requested herein for the basic remedial effectiveness project and the optional source tracking project.

Remedy Effectiveness Studies

The tasks detailed below provide a description of work and reporting elements deemed necessary to carry out the base remedial effectiveness studies for this work assignment project.

Task 1. Development of Technical and Financial Work Plans

The Contractor shall develop a synoptic Technical Work Plan and a detailed Financial Work Plan for carrying out the remedy effectiveness studies described in the tasks below. All of these tasks with one minor addition (the deployment, retrieval, and analysis of polyethylene device [PED] passive surrogate samplers, see Tasks 5, 6, and 7, respectively) were conducted on WA 2-11 during the Phase 3 immediate post-dredging evaluation in 2010 and 2011. The Technical Work Plan can mimic, where appropriate, similar features of the Ottawa River Work Plan for WA 2-11. The Financial Work Plan for these remedy effectiveness studies shall present cost breakdowns for each individual task.

The Contractor shall prepare the draft Technical and Financial Work Plans for ORD/GLNPO review within 1 week of receiving the Notice-to-Proceed from the U.S. EPA Contracting Officer (COR). ORD/GLNPO will review, request changes as needed, and approve the final Technical and Financial Work Plans within 3 additional days.

Prior to the start of this work assignment, a decision may be made to delete the SPMD portion of the basic remedial effectiveness studies from the project. If this decision is made, the Contractor will be instructed to delete said work and associated cost from the project via a Technical

Directive from the ORD Task Order Manager (TOM). To facilitate this potential action in an orderly fashion, the Contractor is requested to prepare a separate table outlining the level-of-effort (LOE) and cost associated with all phases of the SPMD work including procurement of the devices from the vendor, deployment and retrieval of the devices, analysis of dialysis extracts prepared by the vendor, and reporting of results. Said LOE and cost would then be subtracted from the approved project LOE and cost to arrive at revised approved totals.

Task 2. Development of QAPP Addendum

A comprehensive Quality Assurance Project Plan (QAPP QAID# 163-Q17) was prepared by the Contractor on WA 1-11 (Option Period 1) of this contract for use on the Ottawa River Dredging Evaluation Project. It was appended by reference to WA 2-10 (Option Period 2) and used exclusively to satisfy Quality Assurance/Quality Control (QA/QC) requirements on this follow-on study as well. It will be appended again by reference to this work assignment (WA 3-07, Option Period 3) and used where appropriate for meeting QA/QC requirements on this study.

As indicated in Task 1, this work assignment will add a new sampling apparatus, PED passive surrogate sampler, to the arsenal of samplers deployed on this project. Since it has not been utilized on the Ottawa River project to date, its inclusion in the evaluation program will require an Addendum to QAPP QAID# 163-Q17. The Contractor shall prepare said QAPP Addendum addressing the preparation and assembly, deployment, retrieval, and extraction and analysis of subject PED samplers for attachment to the base QAPP for this ongoing project

The Contractor shall prepare the draft QAPP Addendum for ORD/GLNPO review within 1 week of receiving the Notice-to-Proceed from the U.S. EPA COR. ORD/GLNPO will review, request changes as needed, and approve the final QAPP Addendum within 1 additional week.

Note to Contractor: The Health and Safety Plan (HASP) prepared by the Contractor on WA 1-11 of this contract has been approved by the U.S. EPA NRMRL Health and Safety Officer for continuing use on the Ottawa River project through 2014. Therefore, no supplements or modifications to the existing HASP are required for this work assignment.

Task 3. Receipt and Analysis of Fish Tissue Samples

During the week July 9, 2012 coincident with sampler deployment (see Task 5 below), ORD intends to collect 18 composites of small, short-lived adult fish (three composites of emerald shiners and three composites of fathead minnows for each of Reaches 2, 3, and 4) and 30 brown bullhead fish (10 for each of Reaches 2, 3, and 4) for analysis by the Contractor. Following necropsy and sample freezing, ORD will send to the Contractor 48 frozen fish tissue samples for analysis. The Contractor shall homogenize the samples independently and conduct the following suite of analyses on each of the 48 fish tissue samples provided by ORD using methods approved in QAPP QAID# 163-Q17:

- | | |
|--|--------------------------------------|
| 1. PCB Individual Congeners | 4. PAHs (16 priority plus alkylated) |
| 2. PCB Homologs | 5. Wet Weight |
| 3. PCB Aroclors (10% of samples = 5 samples) | 6. Lipids |

All fish tissue analyses shall be completed by October 31, 2012.

All fish tissue samples shall be held in archive status by the Contractor until all data are reviewed and accepted by ORD. As directed by ORD, archived samples will then either be shipped to U.S. EPA-Cincinnati or disposed of properly.

Task 4. Receipt and Analysis of Food Web Tissue Samples

ORD intends to collect food web tissue samples during the summer sampling period for this work assignment (fish during the week of July 9, 2012 coincident with the fish catch in Task 3 above and sampler deployment [see Task 5 below] and invertebrates [primarily spiders] coincident with sampler retrieval [see Task 6 below] during the week of August 20, 2012. During these 2 weeks, it is anticipated that a total of 150 food web tissue samples will be collected for analysis by the Contractor. Following the late-August sampling, ORD will freeze and send the anticipated number of 150 food web tissue samples to the Contractor for analysis. The Contractor shall homogenize the samples independently and conduct the following suite of analyses on each of the 150 anticipated food web tissue samples provided by ORD using methods approved in QAPP QAID# 163-Q17. (Note: PAH analyses shall not be conducted on food web tissue samples):

- | | |
|---|---------------|
| 1. PCB Individual Congeners | 4. Wet Weight |
| 2. PCB Homologs | 5. Lipids |
| 3. PCB Aroclors (10% of samples = 15 samples) | |

All food web tissue analyses shall be completed by November 30, 2012.

All food web tissue samples shall be held in archive status by the Contractor until all data are reviewed and accepted by ORD. As directed by ORD, archived samples will then either be shipped to U.S. EPA-Cincinnati or disposed of properly.

Task 5. Deployment Activities (Deployment of Sampling Devices and Collection of Surface Sediment and Water Column Samples)

The Contractor shall deploy body burden (BB) and ECO Hester-Dendys (H-Ds), SPMD passive samplers, and PED passive samplers at the 18 stations whose coordinates are identified in Table 1. These samplers shall be deployed using highly accurate GPS equipment (capable of matching specified coordinates in the x-y [horizontal] plane within ± 10 cm and in the z [vertical] plane within ± 5 cm). The sampler bundle arrangement shown in Figure 3 shall be utilized by the Contractor for the deployments with the addition of a second water column cage (similar to the one housing SPMD water column samplers) for housing water column PED samplers. At all 18 stations, six in each of Reaches 2, 3, and 4, duplicate BB H-D cage samplers equipped with standard 3-in. x 3-in substrate plates shall be suspended in the water column in two rectangular plots or layouts (20 H-D assemblies per plot or cage, 40 per station) on either side of the depicted passive samplers. ORD will provide all necessary BB H-D cages, SPMD cages (minnow traps) and racks, and PED cages (minnow traps). Between the two identical BB H-D cage layouts (20 H-D assemblies in each cage or layout), an SPMD cage and a PED cage shall also be suspended

in the water column at each station as shown (only SPMD cages are shown in Figure 3), yielding a total deployment of 18 SPMD cages and 18 PED cages. A sediment SPMD rack shall be installed directly below and attached by cable to the water column SPMD at each station, yielding a total deployment of 18 SPMD racks. The SPMD racks shall be installed in contact with the sediment surface. Three PED ribbons shall be installed in each PED water column cage. At six of the above sampling stations, an ECO H-D cinder block sampler shall also be installed alongside the SPMD (and PED) deployments as indicated in Figure 3. The ECO H-Ds will be provided by ORD. The Contractor shall provide the cinder blocks. The ECO H-D cinder block samplers shall be laid on their sides on the sediment surface (with the H-Ds positioned on the upper sides of the cinder blocks). All SPMD materials, including standard SPMD ribbons, canisters for holding the water column SPMDs intact, trip blank SPMDs, and performance reference compound (PRC) spikes, shall be purchased or rented from Environmental Sampling Technologies (EST), St. Joseph, MO.

The uptake rates of PCBs in SPMDs can be affected by environmental conditions such as biofouling and turbulence. To account for this potential source of variation, the SPMDs shall be spiked with PCB 14 and PCB 50 to serve as PRCs by EST. These PRCs shall be used to aid in the estimate of *in-situ* SPMD uptake or sampling rates. The Contractor shall not spike the PED samplers with these two PRCs.

The bundle of sampling devices described above shall be installed as close to each other as practical to minimize spatial variations in sample character and integrity. All H-D, SPMD, and PED samplers shall be installed, if possible based on weather and river conditions, during the first 2-3 days of the week of July 9, 2012 at a rate at which on-site ORD researchers can harvest macroinvertebrate growth from the BB H-Ds during retrieval (and preserve the ECO H-Ds for later enumeration and identification by ORD [NERL]-Cincinnati).

In addition to sampler deployments during the week of July 9, 2012, the Contractor shall also collect a composite surface sediment sample at each of the 18 stations where H-D assemblies and SPMD and PED samplers are deployed above (coordinates summarized in Table 1). Each surface sediment sample shall be formed by compositing the top 6 in. of 16 grab push cores taken uniformly spaced around the targeted sampling station. The Contractor shall provide a GPS system to position its push core sampler over each desired sample location. This GPS system shall be capable of matching specified coordinates in the x-y (horizontal) plane within ± 10 cm and in the z (vertical) plane within ± 5 cm. Using this GPS equipment, the Contractor at each station shall duplicate as closely as possible the same perimeter sampling pattern utilized in WA 0-11 (Phase 1) and WA 2-11 (Phase 3) for surface sediment push core sampling.

The individual cores shall be composited on site to yield a total of 18 composite surface sediment samples. Standard sediment cores shall be employed that yield approximately 0.5 L of wet sediment sample in a 6-in. length. The 16 grab cores should, therefore, yield approximately 8 L of homogenized composite sample volume per station. Approximately 2 L of this volume shall be properly packaged and sent to ORD (NERL)-Cincinnati for sed-tox testing. Another 1-1.5 L, as needed, shall be reserved by the Contractor for sediment chemistry analyses. The remainder shall be properly packaged and sent to ORD (NRMRL)-Cincinnati for a battery of additional tests.

The Contractor shall collect grab water column samples in tandem with sediment sample collection at each of the above 18 stations during the week of July 9, 2012. These water samples shall be collected at approximate mid-depth of the water column. Sufficient sample shall be collected to conduct the battery of water chemistry analyses specified in Task 7 below. The water column samples shall be properly packaged and sent to the Contractor's laboratory for analysis.

One highly-trained U.S. EPA/NRMRL staff member will be made available to assist with sampler deployment and surface sediment and water column sampling during the week of July 9, 2012.

Task 6. Retrieval Activities (Retrieval of Sampling Devices and Collection of Surface Sediment Samples)

All 18 surface sediment SPMD samplers and all 18 water column SPMD samplers (a total of 36 SPMD samplers) shall be retrieved during the week of August 6, 2012 on a schedule that provides for 28-day exposure for each device. All 18 BB H-D and all six Eco H-D samplers and all 18 water column PED samplers shall be retrieved during the week of August 20, 2012 on a schedule that provides for 42-day exposure of each sampler.

Upon retrieval, all SPMD ribbons shall be removed from sediment racks and the water column cages, properly packaged and iced, and sent to EST for dialysis and extraction. The extracts will be returned to the Contractor for clean-up and analysis.

Upon retrieval, the BB H-D macrobenthos samples will be harvested on site by ORD personnel who will bottle the harvested macroinvertebrate growth in jars provided by the Contractor and transfer custody of them to the Contractor for subsequent analysis. The harvested macroinvertebrate growth for all 20 BB H-D cages for each individual plot or layout at any given station shall be combined to yield one composite sample per plot or two composites for the duplicate plots at each station, yielding a total of 36 BB H-D macroinvertebrate samples. Upon retrieval, the ECO H-Ds shall be turned over to ORD for Agency analysis. At the time of H-D retrieval, ORD researchers may collect qualitative dip net samples in the vicinity of the six ECO H-D sample locations. These qualitative samples, if collected, will be used in conjunction with data derived from the macroinvertebrates colonizing the ECO H-Ds to develop Ohio EPA macroinvertebrate metrics and Lacustrine Index of Biotic Integrity scores.

Upon retrieval, the water column PED ribbons shall be removed from the water column cages, properly packaged and iced, and sent to the Contractor's laboratory for dialysis, extraction, clean-up, and analysis.

As during the sampler deployment week, the Contractor shall also collect a composite surface sediment sample at each of the 18 stations where H-D assemblies and SPMD and PED samplers were deployed above. The same caliber GPS equipment and the same sediment sampling pattern and methodology used during sampler deployment shall be utilized again during sampler retrieval, again yielding 18 composite surface sediment samples for analysis. These surface sediment shall be collected during the second retrieval week of August 20, 2012. No surface

sediment samples shall be collected during the first retrieval week of August 6, 2012. No water column samples shall be collected during either sampler retrieval event.

One highly-trained U.S. EPA/NRMRL staff member will be made available to assist with H-D and PED sampler retrieval and surface sediment sampling during the week of August 20, 2012. This staff member will not be available for SPMD sampler retrieval during the week of August 6, 2012.

Task 7. Conduct of Macroinvertebrate, SPMD, and PED Analyses

The Contractor shall conduct the following suite of analyses on each of the 36 BB macroinvertebrate samples harvested in Task 6 above using methods approved in QAPP QAID# 163-Q17:

- | | |
|--|--------------------------------------|
| 1. PCB Individual Congeners | 4. PAHs (16 priority plus alkylated) |
| 2. PCB Homologs | 5. Wet Weight |
| 3. PCB Aroclors (10% of samples = 4 samples) | 6. Lipids |

All macroinvertebrate analyses shall be completed by November 30, 2012.

All macroinvertebrate samples shall be held in archive status by the Contractor until all data are reviewed and accepted by ORD/GLNPO. As directed by ORD, archived samples shall then either be shipped to U.S. EPA-Cincinnati or disposed of properly.

The Contractor shall conduct the following suite of analyses on the 36 SPMD extracts returned to the Contractor by EST and the 18 PED extracts developed by the Contractor in Task 6 using methods approved in QAPP QAID# 163-Q17:

- | | |
|------------------------------------|--------------------------------------|
| 1. PCB Individual Congeners | 4. PAHs (16 priority plus alkylated) |
| 2. PCB Homologs | 5. PCB Aroclors (10% of samples = |
| 3. Performance Reference Compounds | 2 Sediment SPMDs, |
| | 2 water column SPMDs, and |
| | 2 water column PEDs) |

All SPMD and PED analyses shall be completed by November 30, 2012.

All SPMD and PED samples shall be held in archive status by the Contractor until all data are reviewed and accepted by ORD/GLNPO. As directed by ORD, archived samples will then either be shipped to U.S. EPA-Cincinnati or disposed of properly.

Task 8. Conduct of Surface Sediment and Water Column Analyses

The Contractor shall conduct the following suite of analyses on each of the 36 composite surface sediment samples collected in Tasks 5 and 6 above using methods approved in QAID# 163-Q17:

- | | |
|--|---------------------|
| 1. PCB Individual Congeners | 5. TOC |
| 2. PCB Homologs | 6. Moisture Content |
| 3. PCB Aroclors (10% of samples = 4 samples) | 7. PSD |
| 4. PAHs (16 priority plus alkylated) | |

All composite surface sediment analyses shall be completed by November 30, 2012.

All composite surface sediment samples shall be held in archive status by the Contractor until all data are reviewed and accepted by ORD/GLNPO. As directed by ORD, archived samples shall then either be shipped to U.S. EPA-Cincinnati or disposed of properly.

The Contractor shall conduct the following suite of analyses on the 18 grab water column samples collected in Task 5 above using methods approved in QAPP QAID# 163-Q17:

- | | |
|--|--------------------------------------|
| 1. PCB Individual Congeners | 4. PAHs (16 priority plus alkylated) |
| 2. PCB Homologs | 5. TOC |
| 3. PCB Aroclors (10% of samples = 2 samples) | 6. TSS |

All grab water column analyses shall be completed by November 30, 2012.

All grab water column samples shall be held in archive status by the Contractor until all data are reviewed and accepted by ORD/GLNPO. As directed by ORD, archived samples shall then either be shipped to U.S. EPA-Cincinnati or disposed of properly.

Task 9. Preparation of Monthly Progress Reports

Brief monthly progress reports shall be submitted to ORD/GLNP) by the 20th of the month following the first full month after the Notice-to-Proceed. These reports shall summarize technical progress and any problems encountered, resolution of said problems, the latest data results, and cost expenditures.

Task 10. Preparation of Data Summary Final Report

The Contractor shall prepare a comprehensive data summary report of all analytical results, field measurements, observations, and findings generated during WA 3-7. Where practical, the post-dredging Year 1 data from WA 3-7 shall be presented alongside similar/related pre-dredging and immediate post-dredging data to facilitate comparisons of pre- and post-dredging performance results. Percent improvements or deteriorations in performance shall be calculated and presented using appropriate statistical methodology.

Assuming that all analytical requirements are completed by November 30, 2012, the data summary draft report shall be submitted to ORD/GLNPO by March 31, 2012. ORD/GLNPO will review the draft report, request changes as needed, and return the draft report for corrections to the Contractor by February 28, 2013. The Contractor shall submit the corrected data summary final report to ORD/GLNPO for review and approval by March 31, 2013.. An additional month

until April 30, 2013 will be allowed to handle remaining problems and issues, if any, with the final report.

Task 11. Assistance with Finalization of Related ORD Deliverables

The Contractor shall provide up to 200 P-4 level hours, up to 150 P-3 level hours, and up to 60 T-3 level hours to assist in finalizing two or three related sediment remediation ORD deliverables. Specific instructions will be provided to the Contractor regarding assistance needed for these deliverables.

Option 1. Second Source Tracking Study

The tasks detailed below provide a description of work and reporting elements deemed necessary to carry out Option 1 source tracking studies for this work assignment project if a decision is made by the Government to exercise Option 1.

Task OP-1. Development of Technical and Financial Work Plans

The Contractor shall develop a synoptic Technical Work Plan and a detailed Financial Work Plan for carrying out Option 1 of WA 3-07. This second source tracking study, if conducted, will be similar in most respects to the first source tracking study carried out in 2011 under WA 2-10. The principal difference in scope is the substitution of PED passive water column samplers for canister SPMD water column samplers. Elements of this 2012 second source tracking study that are similar or identical to the 2011 first source tracking study essentially can be taken directly from the Technical Work Plan for the 2011 study and repeated verbatim in the Technical Work Plan for this optional task. The Financial Work Plan for Option 1 shall present cost breakdowns for each individual task. The Contractor shall prepare Option 1 draft Work Plans for ORD/GLNPO within 1 week of receiving the Notice-to-Proceed from the U.S. EPA CO. ORD/GLNPO will review, request changes as needed, and approve the final Work Plans within 1 additional week.

Note 1 to Contractor: QAPP QAID# L-16539 prepared in 2011 for the first source tracking study under WA 2-10 and the QAPP Addendum being prepared under this work assignment (Task 2 above) for PED sampler deployment, retrieval, and analysis will be satisfactory for addressing QA/QC requirements for Option 1 of this work assignment.

Note 2 to Contractor: The HASP prepared by the Contractor for WA 1-11 has been approved by the U.S. EPA NRMRL Health and Safety Officer for continuing use on the Ottawa River project through 2014. Therefore, no supplements or modifications to the existing HASP are required for Option 1 of this work assignment..

Task OP-2. Receipt and Analysis of Food Web Tissue Samples

ORD intends to collect food web tissue samples (primarily spiders) during this source tracking study coincident with deployment of the selected samplers. The spiders will be collected along both banks of Reach 5 to assist in defining the natural habitat of this area and the impact, if any,

of potential sources of contamination on these species. During this period, it is anticipated that a total of 20 composite food web tissue samples will be collected for analysis by the Contractor. Following the mid-August sampling, ORD will freeze and send the anticipated number of 20 composite food web tissue samples to the Contractor for analysis. The Contractor shall homogenize the samples independently and conduct the following suite of analyses on each of the 20 anticipated food web tissue samples provided by ORD using methods approved in QAPP QAID# L-16539:

- | | |
|--|--------------------------------------|
| 1. PCB Individual Congeners | 4. PAHs (16 priority plus alkylated) |
| 2. PCB Homologs | 5. Wet Weight |
| 3. PCB Aroclors (20% of samples = 4 samples) | 6. Lipids |

All food web tissue analyses shall be completed within 10 weeks of receipt of the samples from ORD.

All food web tissue samples shall be held in archive status by the Contractor until all data are reviewed and accepted by ORD/GLNPO. As directed by ORD, archived samples will then either be shipped to U.S. EPA-Cincinnati or disposed of properly.

Task OP-3. Deployment of Sampling Devices

The Contractor shall deploy 42 PED suspended in the water column, 39 bivalve (most likely Asian clams) samplers also suspended in the water column, and 39 sediment traps embedded in or laying on the surface of the sediment. These samplers shall be deployed in sets of three at each of 13 transects in Reach 5 stretching 5,200 ft southward from DMUs 4X and 4Y to the Upton Street bridge. A duplicate set of PED samplers shall be deployed at one of the 13 transects to be determined on site. Eight of the transects will be located on 200-ft intervals in the 1,600-ft distance between the I-75 bridge crossing and the Auburn Road bridge (Figure OP-1). Four more will be located further upriver (southward) on 800-ft intervals (Figure OP-1) in the 3,600-ft stretch between the Auburn Road bridge and the Upton Street bridge. A 13th transect will be located near a yet-to-be-determined combined sewer overflow (CSO) or other storm water outfall discharging into this area of the Ottawa River. Exact placement of the 13 transects will determined on site in concert with ORD/GLNPO staff just prior to sampler deployments.

The Contractor shall deploy the samplers in three sets across each transect (Figure OP-2) at the approximate one-half and one-third points of the river width. This figure shows SPMDs housed in cassettes as installed along with the bivalve samplers and sediment traps during the first source tracking study in Option Period 2 (WA 2-10) in the summer of 2010. On this study, PEDs housed in minnow trap cages (to be provided by ORD) shall be substituted for the SPMD cassette samplers.

The bivalve and PED cages shall be chained together before (in the direction of flow) the stationary sediment traps. In the reach between the I-75 bridge and the Auburn Road bridge, the river is shallow and can be waded. In this area, the eight transects of bivalve and PED cages will need to be anchored (staked) to the riverbed to prevent unwanted movement. In shallow water,

the sediment traps shall be embedded in the top sediment layer such that the top of the sediment trap tray is even with the level of the surface sediment. The river is much deeper upriver and not capable of being waded between the Auburn Road bridge and the Upton Street bridge. In this stretch, a boat(s) will be needed to deploy the samplers. The bivalve and PED samplers most likely will need to be tethered to floatable buoys in this area to retain desired positioning. Also, rather than being physically embedded in the sediment layer as in the shallow areas, the sediment traps will have to be lowered to and laid on the sediment bed in these deeper water sites. Any embedding or sinking into the sediment layer will need to be promoted by their own weight. These deeper water traps will need to be marked in some fashion to locate them and equipped with a means of retrieving them without spilling the accumulated sediment.

The PEDs, bivalves, and sediment traps shall be deployed together during a selected week to be determined this coming summer (2012). A total deployment or installation time of 4-5 days is anticipated. The samplers shall be left in the Ottawa River source tracking zone for a 6-wk exposure.

Using this array of samplers will enable determination of water soluble contaminants (PEDs), water soluble/particulate-associated contaminants (bivalves), and sediment-associated contaminants (sediment traps). For all three sampler types, PCBs shall be quantified at the congener-specific level to allow source fingerprinting and comparison to sediment sample analyses already available from DMUs 4X and 4Y. Including the collection and analysis of indigenous food web species (spiders) in this sampling program (see Task B-3) incorporates the potential impact undetected contaminant sources may be having on the local ecosystem.

No indigenous bivalves are available for this river system in quantity to allow deployment of native species. However, Asian clams, though not native to the system, are widespread throughout the United States and have been found in this study area. A natural supply of Asian clams has not been identified, but commercial suppliers are available. The Contractor shall be responsible for locating and procuring suitable Asian clams and acquiring necessary State and/or local approval and authorization for their deployment in this program. The Contractor shall make arrangements to receive the clams 24-48 hr before they will be deployed. Clams shall be sorted by size, and only large clams (25-35 mm measured along the long axis) shall be used in this study. Upon receipt, the clams shall be transferred to buckets containing fresh water from the river to maintain their survival. Asian clams shall be deployed at each transect in three submersible metal baskets 16 in. long and 9 in. wide constructed of 1/4-in. (6.4-mm) square galvanized wire mesh. Each basket shall be filled with 20 clams. Composites of 10 clams from each basket shall be used for PCB analysis. The additional clams deployed in each basket provide extra tissue in the event of potential clam mortality and deployment loss and for archive retention. Each composite or replicate of 10 clams shall be sealed in an aluminum foil pouch. The three foil pouches from each transect shall be labeled with the replicate number and placed in a single resealable labeled plastic bag.

PED samples shall consist of polyethylene ribbons constructed and processed as described in the QAPP Addendum being prepared under Task 2 above of the base remedy effectiveness study. Three PED ribbons shall be attached to the inside of each cage. The three PED ribbons in each cage shall be composited to form a single replicate upon collection. Three replicates shall be

collected at each transect. The PEDs shall be stored in resealable metal cans, kept frozen prior to deployment, and transported to sampling sites on ice. The PED cages shall be equipped with their polyethylene ribbons and deployed as soon as possible after opening the storage cans. Collected PED ribbons shall be placed back in the cans and the cans labeled for processing at the Contractor's laboratory. The PEDs shall not be spiked with PRCs (PCB 14 and PCB 50).

The uptake rates of PCBs in PEDs can be affected by environmental conditions such as biofouling and turbulence. To account for this potential source of variation, the PEDs shall be spiked with PCB 14 and PCB 50 to serve as performance reference compounds (PRCs). These PRCs shall be used to aid in the estimate of *in-situ* SPMD uptake or sampling rates.

Sediment traps shall be deployed in conjunction with water column samplers at each transect. Bedload-type pit traps consisting of stainless steel trays of approximate size 12 in. x 8 in. x 6 in. shall be used for this study. These trays are designed, where possible, to be embedded in the top sediment layer and trap bedload and settling sediment as it passes over the tray. As indicated above, it will be more difficult to embed trays in the sediment in the deeper water between the Auburn Road bridge and the Upton Street bridge.

The above tray size is provided only as a guide to the Contractor in designing the trap systems. The Contractor has free latitude to alter the size to provide the optimum design for this river setting. The Contractor shall incorporate in the design a baffling assembly to prevent premature release of the newly deposited sediment back into the river, particularly during storms or other high flow events

A subset of clams and PEDs shall be maintained in the field throughout the deployment process. Three replicates of 10 clams and three replicate PEDs shall be submitted for baseline analyses of PCBs. Cans holding the field blanks shall be opened in the field and subsequently resealed, stored, and transported with the field samples. The PED field blanks shall be sent to the Contractor's laboratory along with the PED field-exposed samples where they will be processed via dialysis and extraction, cleaned up, and analyzed..

Task OP-4. Retrieval of Sampling Devices

The Contractor shall collectively remove and retrieve the PED, bivalve, and sediment trap samplers from the source tracking sampling zone in the Ottawa River during the week of immediately following a 6-wk exposure of the samplers. Samples from each of the three stations for each transect shall be collected and containerized separately for transport to the analytical laboratory. Accordingly, a total of 42 PED samples, 39 clam samples, and 39 sediment samples shall be retrieved. At the Contractor's laboratory, each of the 39 clam samples and 39 sediment samples shall be homogenized separately. For the PEDs, the Contractor shall subject each of the 42 composites containing three ribbons each to separate dialysis and extraction.

For chemical analysis, the Contractor shall combine aliquots of the three extracts for the PEDs, the three homogenized tissue samples for clams, and the three homogenized sediment samples for each transect into one larger aliquot for analysis. This procedure will result in a total of 14 PED composite extracts (plus three field blanks), 13 composite clam tissue samples (plus three

field blanks), and 13 composite sediment samples for analysis. The remainder of each separately extracted or homogenized sample shall then be archived, such that an individual sample from one of the stations for a given transect could be retrieved and analyzed individually if a high contaminant concentration (hot spot) or other abnormality were found in the combined aliquot for that transect. In this manner, the portion of the transect with the high concentration could possibly be isolated.

Task OP-5. Conduct of PED Analyses

The Contractor shall conduct the following suite of analyses on each of the 14 composite PED field sample extracts and three PED field blank extracts formed per Task OP-5 above using methods approved in QAPP QAID# L-16539 and the QAPP Addendum being prepared under Task 2 above.

- | | |
|-----------------------------|--|
| 1. PCB Individual Congeners | 3. PAHs (16 priority plus alkylated) |
| 2. PCB Homologs | 4. PCB Aroclors (20% of samples = 3 samples) |

All PED analyses shall be completed within 10 weeks of the collection of the samples.

All PED samples shall be held in archive status by the Contractor until all data are reviewed and accepted by ORD/GLNPO. As directed by ORD, archived samples will then either be shipped to U.S. EPA-Cincinnati or disposed of properly.

Task OP-6. Conduct of Bivalve Clam Analyses

The Contractor shall conduct the following suite of analyses on each of the 13 composite field-exposed clam samples and three field blank clam samples formed per Task OP-5 above using methods approved in QAPP QAID# L-16539:

- | | |
|--|--------------------------------------|
| 1. PCB Individual Congeners | 4. PAHs (16 priority plus alkylated) |
| 2. PCB Homologs | 5. Wet Weight |
| 3. PCB Aroclors (20% of samples = 3 samples) | 6. Lipids |

All clam analyses shall be completed by November 30, 2011.

All clam samples shall be held in archive status by the Contractor until all data are reviewed and accepted by ORD/GLNPO. As directed by ORD, archived samples will then either be shipped to U.S. EPA-Cincinnati or disposed of properly.

Task OP-7. Conduct of Sediment Analyses on Sediment Trap Sediment

The Contractor shall conduct the following suite of analyses on each of the 13 composite sediment samples formed per Task OP-5 above using methods approved in QAPP QAID# L-16539:

- | | |
|--|---------------------|
| 1. PCB Individual Congeners | 5. TOC |
| 2. PCB Homologs | 6. Moisture Content |
| 3. PCB Aroclors (20% of samples = 3 samples) | 7. PSD |
| 4. PAHs (16 priority plus alkylated) | |

All sediment analyses shall be completed within 10 weeks of the collection of the samples.

All sediment samples shall be held in archive status by the Contractor until all data are reviewed and accepted by ORD/GLNPO. As directed by ORD, archived samples will then either be shipped to U.S. EPA-Cincinnati or disposed of properly.

Task OP-8. Preparation of Monthly Progress Reports

Brief monthly progress reports shall be submitted to ORD/GLNPO by the 20th of the month following the first full month after the Notice-to-Proceed. These reports shall summarize technical progress and any problems encountered, resolution of said problems, the latest data results, and cost expenditures.

Task OP-9. Preparation of Comprehensive, Interpretive Final Report

The Contractor shall prepare a comprehensive, interpretive final report of all data, measurements, observations, and findings generated in this source tracking study. The report shall integrate the conclusions reached into a holistic presentation and summary of results.

The report shall compare the concentration data produced on this study with post-cleanup and final surface-weighted average concentration goals (see page) established for the Ottawa River remediation project. The report shall offer an assessment as to whether additional studies are required to determine the probable need for further remediation action in Reach 5.

The draft final report shall be submitted to ORD/GLNPO within 2 months of completion of all analytical requirements. ORD/GLNPO will review the draft report, request changes as needed, and return the draft report for corrections to the Contractor within 1 additional month. The Contractor shall submit the corrected final interpretive report to ORD/GLNPO for review and approval within 1 more month, yielding a total of 4 months permitted for the full report preparation task.

CBI APPLICABILITY

CBI does not apply.

APPLICABLE CONTRACT TASKS

This work assignment titled "Joint U.S. EPA ORD/GLNPO Post-Dredging Year-1 Remedy Effectiveness Evaluation for the Ottawa River Environmental Dredging Project" relates to

Task 1 (Collection and Analysis of Data) and Task 3 (Physical Testing) of the current SOW for this contract.

PERFORMANCE MEASURES

The Contractor's performance will be judged by: 1) timeliness in meeting the various completion dates of the six field and analytical tasks (Tasks 3 through 8) described above for the base remedy effectiveness study, the six field and analytical tasks (Tasks OP-2 through OP-7) described above for the Option 1 (if exercised) portion of this work assignment, the completion date (April 30, 2013) of the draft final report cited above for the base remedy effectiveness study, and the completion date (4 months after completion of all analytical requirements) of the draft final report for the Option 1 (if exercised) portion of this work assignment, and 2) accuracy and thoroughness in satisfactorily addressing and conducting all elements of the base remedy effectiveness study of this Statement-of-Work (SOW) and the Option 1 (if exercised) portion of this SOW as described in the Contractor's Technical Work Plan and the new QAPP Addendum to be prepared for the base remedy effectiveness study.

The Government will review the Contractor's promptness in meeting the specified completion dates for the above two (and possibly four if Option 1 is exercised) areas of the SOW defined in the above paragraph as performance measures. If the Contractor is late by more than 14 days in meeting the completion dates of any of the field and analytical completion dates or either of the draft final reports, a 5% reduction in fee will be applied by the Government. If the Contractor is late by more than 21 days in meeting the completion dates of any of the field and analytical completion dates or either of the draft final reports, a 10% reduction in fee will be applied by the Government. The reduction in fee will increase to 20% if the Contractor is more than 30 days late in meeting any of the above completion dates. Subject reductions in fee will not apply if it is determined that delayed completion is due to the Government for any reason. Said reductions also will not apply if delayed completion is due to unavoidable adverse weather conditions.

The Government will also review the Contractor's accuracy and thoroughness in addressing and carrying out the technical requirements of their Work Plan and the quality assurance requirements of QAPP and QAPP Addendum applicable to this work assignment. The Government acknowledges that assessment of accuracy and thoroughness can be subjective and will consult with the Contractor prior to making any final determinations. After due deliberations, if the Government determines that the Contractor has not satisfactorily addressed one or more technical elements or quality assurance requirements, a 10% reduction in fee will be applied to each element and/or requirement. As above, subject reductions in fee will not apply if, for any reason, Government actions have resulted in non-acceptable performance. If reductions in fee are deemed appropriate, they will apply to both paid and unpaid fees.

PERIOD OF PERFORMANCE

This work assignment is projected to begin on June 23, 2012 (as directed by issuance of a Notice-to-Proceed by U.S. EPA's Contracting Officer to the Contractor) and will extend through June 22, 2013.

LEVEL OF EFFORT

This Work Assignment is estimated to require 3,759 professional labor hours to complete all remedial effectiveness evaluation base project tasks. If Option 1 is exercised, an estimated additional 1,133 professional labor hours will be required to complete a second source tracking study (to complement the first source tracking study conducted in 2011 on WA 2-10 [Option Period 2]).

U.S. EPA ORD CONTACTS

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2. Alternate Work Assignment Manager

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MISSING FIGURES

In the series of figures provided below, Figures 1, 2, and OP-1 have been deleted from this SOW. These figures are reproductions of site maps and consume substantial memory and require considerable time to transmit electronically. In the interests of providing a more compact electronic SOW file, these maps will be forwarded separately to the Contractor.

For clarity, the titles of the three omitted figures are listed below:

Figure 1. Ottawa River GLLA Project Overview Map Showing River Mile Delineations for the Four Reaches. Figure 1 is shown on one page.

Figure 2. Ottawa River GLLA Maps of Dredge Management Units (DMUs) for Reaches 2, 3, and 4. Figure 2 consists of the following four maps shown on four separate pages:

- Figure 3.2 - Reach 2**
- Figure 3.3 - Upper Reach 3**
- Figure 3.4 - Lower Reach 3**
- Figure 3.5 - Reach 4**

Figure OP-1. Transects Used During WA 2-10 for Source Tracking in Reach 5 of the Ottawa River. Figure OP-1 is shown on one page.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-08

☐ Other☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2013

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

Fish Advisories

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Tasks I and II

Purpose:

☐

Work Assignment

☐

Work Assignment Close-Out

☐

Work Assignment Amendment

☐

Incremental Funding

☒

Work Plan Approval

Period of Performance

From 09/12/2012 To 06/22/2013

Comments:

The work plan dated 10/04/2012 is approved. Currently, funds in the amount of \$169,500 are allocated to support this work. Do not exceed this amount without prior authorization from the project officer.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee: \$0.00

LOE:

06/23/2009 To 06/22/2013

This Action:

\$0.00

Total:

\$0.00

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

10/04/2012

Cost/Fee:

\$188,822.00

LOE:

1,535

Cumulative Approved:

Cost/Fee:

\$188,825.00

LOE:

1,535

Work Assignment Manager Name Samantha Fontenelle

Branch/Mail Code:

Phone Number 202-566-2083

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 3-08 <input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024	Contract Period 06/23/2009 To 06/22/2013 Base Option Period Number 3	Title of Work Assignment/SF Site Name NLFA								
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW Tasks I, II, and III								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/12/2012 To 06/22/2013								
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:				LOE:				
06/23/2009 To 06/22/2013										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee:				LOE:				
Cumulative Approved:		Cost/Fee:				LOE:				
Work Assignment Manager Name Samantha Fontenelle <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number 202-566-2083 FAX Number:				
Project Officer Name Cynthia Bowie <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-564-7726 FAX Number:				
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:				
Contracting Official Name Christine Edwards <div style="display: flex; justify-content: space-between;"> <div> (Signature) </div> <div> 9/12/2012 (Date) </div> </div>						Branch/Mail Code: Phone Number: 202-564-2182 FAX Number:				

PERFORMANCE WORK STATEMENT
Contract EP-W-09-024
Work Assignment No.: 3-08

Title: National Listing of Fish Advisories (NLFA)

Purpose: The purpose of this Work assignment is to develop, update and report on the NLFA program.

I. Background:

In November of 1988, EPA provided funding to the American Fisheries Society (AFS) to conduct a national survey on State Advisory Programs. State responses were published in the report *Results of the 1989 Census of the State Fish/Shellfish Advisory Programs*. The study showed that States use a variety of methods to determine the risk of consuming contaminated fish. In addition to describing their advisory programs, states were requested to identify areas in which the federal government could assist in this process. One of the key areas identified was the transfer of fish advisory related information between the State and federal agencies. States recommended the establishment of a clearinghouse to improve the transfer of information.

In response to the states' recommendation, the Office of Science and Technology (OST) developed the Fish Advisory Bulletin Board System (BBS). The BBS contained a searchable database that listed each state's fish advisories, provided state contact names, and other information related to specific advisories. In 1994, OST modified the fish consumption advisory database to incorporate a mapping component operating within a PC-based Windows environment. The new program and database are called The National Listing of Fish Advisories (NLFA). In 1995, 1996, and 1997, OST further modified the database to include wildlife under advisory as well as lake acres and river miles under advisory, trends data, Canadian advisories, tissue monitoring data, and risk communication methods. In 1998, EPA made the NLFA publically available for use on the EPA website. In addition to maintaining and updating the NLFA, EPA conducts an annual survey of states and tribes designed to characterize advisory programs. In the past, EPA collected information from states and tribes for the NLFA and the Annual Report on Advisory Programs under the 305(B) Information Collection Request (ICR). In November 2011, EPA received approved from the Office of Management and Budget to conduct information collection regarding state and tribal fish advisory programs under ICR #2040-0226.

II. Scope of Work:

A Work Plan and Quality Assurance Project Plan are required for this work assignment. Confidential Business Information (CBI) does not apply to this work assignment. This work assignment relates to Tasks I, II, and III — Collection of Data, Data Analysis and Technical Program Support — General Support, respectively. The Contractor shall perform the

following tasks:

Task 1 – Kick-Off Meeting and Monthly Progress Reports

Prior to initiation of work under subsequent tasks, the Contractor shall schedule a Kickoff Meeting with the EPA WAM and Alternate WAM to discuss all tasks and schedule of deliverables.

The Contractor shall provide monthly progress reports to include a breakdown by task of the hours expended in the reporting period and description of work progress to date.

Task 2 - Develop a Quality Assurance Project Plan (QAPP)

The Contractor shall develop a Quality Assurance Project Plan (QAPP) to ensure the accuracy and completeness in transcribing and reporting data. The Contractor shall ensure and document that all activities related to updating and/or modifying the NLFA are in accordance with Agency guidance and in compliance with EPA metadata standards. The QAPP shall address project objectives, organization, responsibilities, secondary data sources, and procedures to be used in assuring the quality of data reporting, data reduction and data validation in data transcription. The Contractor shall provide all SOPs used for verifying accuracy of transcription of data. EPA's guidance on developing QAPPs can be found at www.epa.gov/quality.

The QAPP must be approved by the Contractor's QA/QC officer and the EPA/OST QA/QC officers prior to the initiation of data collection. All deliverables shall include a report describing compliance with the QAPP. In addition, when developing the NLFA fact sheets (see Task 6), the Contractor shall include an addendum to the QAPP detailing the methods used for developing any associated database queries.

The work performed in the PWS shall conform to the draft Information Quality Guidelines (IQG) Checklist attached at the end of this document (Attachment A). The completed checklist shall be submitted with the final deliverables.

TASK 3 – Modifications and Updates to the NLFA Database

The Contractor shall make the following changes to the NLFA database:

- a. The Contractor shall contact Advisory Program Managers in all states, territories and tribes (hereafter referred to as "states") that have issued advisories in 2010 to request continued coordination in providing EPA with their fish consumption advisory information developed in 2011. For those states that the Contractor, in consultation with the WAM, determines are unwilling to provide updated advisory information, the Contractor shall obtain the advisory information from state advisory documents or websites in order to update the NLFA with 2011 information.

The Contractor shall verify with the State Advisory Program Managers the state data obtained from state advisory documents or websites.

- b. The Contractor shall update all parameters of the NLFA database with new advisory information except for "meal advice" (i.e., amount of fish that should be consumed) and review all advisory information submitted by states for consistency and accuracy in accordance with the Quality Assurance Project Plan described in Task 2. For purposes of the estimating cost, the Contractor shall assume 360 new advisories will be added to the database.
- c. The Contractor shall remove all historical data for Canada from the database. An archive copy of the complete database should be made before the Canada data are removed.
- d. The Contractor shall geo-reference all new waterbodies (i.e., lakes, rivers, and coastal areas) added to the NLFA database. In consultation with the WAM, the Contractor shall prioritize for geo-referencing any advisory information currently in the NLFA that is not geo-referenced. For purposes of the estimating cost, the Contractor shall assume a total of 500 advisories will be georeferenced.
- e. The Contractor shall, on a monthly basis, verify the accuracy of the State, Territory, and Tribal contacts on the NLFA Contacts page. The Contractor shall provide the WAM with a monthly summary of changes made to the Contacts page, including an updated file of email addresses for all state program managers.

Task 4 – Collection and Analysis of Fish Tissue Contamination Data

- a. The Contractor shall obtain fish tissue data from states collected for the purpose of making advisory determinations. The Contractor shall request new fish tissue data from states that provided data in 2010 and data from the previous 3 years from states that have not provided data in the recent past. The Contractor shall make significant effort via e-mail and phone to obtain the tissue data from all states. The Contractor shall be expected to make a maximum of three phone calls and send two email requests/ reminders to obtain the data from the states. If the Contractor is unsuccessful in obtaining the data, the Contractor shall notify the WAM. For purposes of estimating, the Contractor shall assume 1,500 fish contaminant samples will need to be added to the database.
- b. The Contractor shall geo-reference all new tissue data added to the NLFA. In consultation with the WAM, the Contractor shall prioritize for geo-referencing any tissue data currently included in the NLFA and not geo-referenced. For purposes of estimating cost, the Contractor shall assume 2,000 fish tissue data stations shall be georeferenced under this Task.
- c. The Contractor shall perform up to six (6) statistical analyses of contaminants using

the fish tissue data.

Task 5 – Modifying and Transitioning the NLFA Database

The NLFA database contains both advisory and tissue data provided to EPA by the states, tribes and territories. While the NLFA is a central repository (i.e., one-stop shop) of all state, tribal and territory fish advisory information, it is updated every 2 years, most of the data are historical, and often there are advisory updates that are not captured in the NLFA due to the cycle in which it is updated. Therefore, the most current advisory information resides with the states and can be found on their fish advisory websites. EPA, in recognizing how much state fish advisory programs have improved since the Fish Advisory program began and that the most current fish advisory information can be found on state websites, is planning on refocusing the NLFA to serve mainly as a repository for fish tissue data. The Contractor, in consultation with the WAM, shall develop options for transitioning the NLFA database to include only fish tissue data. In developing options the Contractor shall evaluate whether the NLFA would need to be modified; recommend changes that would need to be made to the database (e.g., should we archive the advisory data and how); identify if additional data may need to be collected to allow EPA to report on the performance measure the number of waters assessed; and evaluate direct reporting of data to EPA using an Agency data exchange system.

Task 6 – Analysis and Reporting of NLFA Fish Advisory Information

- a. The Contractor shall develop a fact sheet consistent with the format and content of EPA document EPA-823-F-11-009 titled 2010 Biennial National Listing of Fish Advisories (November 2011) available at http://water.epa.gov/scitech/swguidance/fishshellfish/fishadvisories/upload/technical_factsheet_2010.pdf. All information in the fact sheet shall be updated based on information submitted in response to EPA's request to the states for 2011 advisory information. The Contractor shall prepare a draft, revised draft and final version of the fact sheets in the Publisher fact sheet template provided by EPA. The contractor shall make the final document web ready and 508 compliant.
- b. The Contractor shall prepare a list of Questions and Answers consistent with the format and content of http://water.epa.gov/scitech/swguidance/fishshellfish/fishadvisories/nlfa_qa_2010.cfm. A draft version of the Questions and Answers shall be provided to the WAM for review prior to submitting the final version.
- c. The Contractor shall develop a PowerPoint presentation similar in content to the presentation entitled "National Maps and Graphics" on the fish advisories website http://water.epa.gov/scitech/swguidance/fishshellfish/fishadvisories/advisories_index.cfm. A draft version of the presentation shall be provided to the WAM for review prior to submitting the final version of the presentation to WAM.

- d. The Fish Advisory Program is required to report annually the total waters assessed. For the past several years, we have considered the total waters under advisory to be equal to the total waters assessed. The Program would like to more accurately report on the waters assessed, which may or may not be equal to the waters under advisory. The Contractor, in consultation with the WAM and AWAM, shall develop a methodology to determine the total waters assessed based on the advisory and fish tissue data for 2011. The Contractor shall report the total waters assessed in the 2012 fact sheet.
- e. The Contractor shall perform up to four additional data queries and/or analyses related to the NLFA advisory data.

Task 7 – Develop Monthly Fish Advisory Newsletter

The Contractor shall prepare a monthly newsletter which shall include articles related to fish advisories, health risks associated with exposure to chemical contaminants in fish as well as other articles related to chemical contaminants in fish for publication on the NLFA webpage.

- a. The Contractor shall develop the monthly "Fish Advisory Newsletter" in the approved Publisher template, provided by EPA, for publication on the Fish Advisories website. The Contractor shall conduct a monthly search, similar to a NEXIS search, of peer reviewed scientific publications and the press for the purpose of identifying articles and meeting/conference announcements related to fish advisories, health risks associated with exposure to chemical contaminants in fish, and other articles related to chemical contaminants in fish. The Contractor shall also conduct a weekly search of major newspapers (e.g., New York Times) and reputable magazines for articles related to fish advisories, health risks and chemical contaminants in fish. The Contractor shall prepare brief summaries of each article (6 sentences or less) with links to the articles and email the summaries along with an updated distribution list, developed under Task 3, on the last Monday of each month to the WAM and Alternate WAM for review and approval before incorporating them into a final newsletter. The Contractor shall submit a 508-compliant PDF and Common Spot version (or HTML version in the Agency approved template) of the final newsletter on the first Monday of each month.
- b. The Contractor shall update monthly the current distribution list to include state and tribal Program Managers, past National Forum on Contaminants in Fish attendees, and other individuals and organizations. The Contractor shall submit an updated distribution list along with the final newsletter on the first Monday of each month. EPA shall provide the Contractor with the current distribution list.

Task 8 – Maintenance of the Mapping and Search Application

The Contractor shall update the list of waterbodies in the "Advisories Where You Live" search using the NHDPlus2.0 if available or another available source with a more comprehensive list of waterbodies than are included in the "Advisories Where You Live" search. The Contractor shall also update the new NLFA application by addressing any data discrepancies or minor coding issues that produce incorrect or incomplete results. Minor coding issues are defined as issues that take no more than 4 hours to modify and update on EPA server. Major coding issues will be prioritized by the EPA WAM prior to Contractor making changes to the NLFA.

III. Deliverables:

All final reports, fact sheets and maps shall be provided to the WAM in electronic and paper formats. Electronic files shall be provided in PDF and in the original software. The contractor shall use Microsoft Office and Adobe Acrobat (online version) software for developing any and all electronic copies of deliverables associated with this Work assignment. All documents to be posted on EPA's website shall be web-ready format and 508 compliant.

The Contractor shall certify in writing for each product that all electronic and paper copies are identical mirror images. All documents to be posted on EPA's website shall be web-ready format and 508 compliant.

IV. Schedule:

- 1) Draft written deliverable(s) for review by WAM will be prepared in accordance with the timeframe specified in the Work assignment Schedule of Benchmarks and Deliverables.
- 2) Final written deliverable(s) will be furnished in accordance with the timeframe specified in the work assignment Schedule of Benchmarks and Deliverables, after written comments are received from the WAM

Table 1. Schedule of Benchmarks and Deliverables

Task	DELIVERABLE	DUE DATE
Task 1	Kick-Off Meeting and Monthly Progress Reports	Within 1 week of notification of work assignment award
Task 2	Develop Quality Assurance Program Plan	
(a)	Draft QAPP	3 weeks from work assignment award

(b)	Final QAPP (including addenda)	One month before work assignment completion
(c)	Information Quality Guidelines checklist	As requested by WAM
Task 3	Modifications and Updates to the NLFA Interface	
(a)	Draft email to states Advisory Program Managers for 2011 data	1 week after WA Kickoff meeting
	Complete processing of up to 1,200 2011 advisories (both new or updates)	No later than January 31, 2013
(b)	Updates on status of advisory data collection for each state in the NLFA database	Biweekly
(c)	Updates on the status of geo-referencing for all states in the NLFA database	Biweekly
	Summary of changes to the Contacts page	Monthly
Task 4	Collection and Analysis of Fish Tissue Contamination Data	
(a)	Updates on status of tissue data collection for each state in the NLFA database	Biweekly
(b)	Updates on status of geo-referencing for all states in the NLFA database	Biweekly
(c)	Fish tissue data analyses	As requested by WAM
Task 5	Transitioning the NLFA Database	
	Draft Options for tissue database	As requested by WAM
	Final Options for tissue database	1 week after receipt of comments
Task 6	Analysis and Reporting of NLFA Fish Advisory Information	
(a)	Draft 2011 NLFA fact sheet	No later than March 13, 2013
	Revised draft with figures and graphics	1 week after receipt of comments on draft fact sheet
	Final 2011 NLFA fact sheet for posting on NLFA webpage	1 week after receipt of comments on revised draft fact sheet.
(b)	Draft Questions& Answers	By March 22, 2013
	Final Question & Answers	1 week after receipt of comments
(c)	Draft NLFA presentation with maps/graphics	1 week after submitting draft 2012 NLFA fact sheet
	Final NLFA presentation with maps/graphics (in electronic and hard copy format)	1 week after receipt of comments
(d)	Draft methodology for total waters assessed	5 weeks after the

		kickoff meeting
	Final methodology	1 week after receipt of EPA comments on draft
(e)	Data queries and analysis	As requested by WAM
Task 7	Develop Monthly Fish Advisory Newsletter	
(a)	Draft of all article summaries from the month	One week before the end of each month for the duration of the work assignment
	Web-ready monthly newsletter	First Monday of each month
(c)	Email distribution list	Monthly
Task 8	Maintenance of the Mapping and Search Application	
	Prioritized List of Minor and Major Changes to the Application	As requested by WAM
	Updated application	As requested by WAM

V. REPORTING

All documentation and reporting under this Work Assignment shall be in compliance with contract requirements. See contract clause F.2, F.3, and J.2 "List of Attachments, Number 2 - Reports of Work".

Additional requirements specific to this Work Assignment are as follows: Monthly progress reports and invoices shall be itemized to show hours and dollars by task.

VI. TRAVEL

Any travel chargeable to this work assignment shall be allowable only in accordance with the limitations of FAR 31.205-43 and FAR 31.205-46, and must be approved by the EPA Project Officer prior to travel taking place. No travel is anticipated under this work assignment.

VII. CONTRACTOR IDENTIFICATION

Contractor personnel shall always identify themselves as Contractor employees by name and organization and physically display that information through an identification badge. Contractor personnel are prohibited from acting as the Agency's official representative.

The Contractor shall refer any questions relating to the interpretation of EPA policy, guidance, or regulation to the Work Assignment Manager.

VIII. Period of Performance:

This work assignment will start on the date the Contracting Officer's signature and extend through June 22, 2013.

IX. Level of Effort:

This work assignment shall require 996 professional hours. Clerical hours are not included.

X. EPA CONTACTS:

WORK ASSIGNMENT MANAGER (WAM):

NAME: Samantha Fontenelle
ADDRESS: 1200 Pennsylvania Ave., NW
MC-4305T, Room 6105-L
Washington, DC 20460
PHONE: (202) 566-2083
E-MAIL: Fontenelle.Samantha@epa.gov

ALTERNATE WORK ASSIGNMENT MANAGER (AWAM):

NAME: Jeffrey Bigler
TITLE: Program Manager
ADDRESS: 1200 Pennsylvania Ave., NW
MC-4305T, Room 6210-P
Washington, DC 20460
PHONE: 202-566-0389
E-MAIL: Bigler.jeff@epa.gov

XI. ATTACHMENTS:

This section provides additional detailed project background or other necessary reference materials for contractor performance.

ATTACHMENT A: Information Quality Guidelines Checklist for Influential Information

ATTACHMENT B: QA Form Addendum

ATTACHMENT A

Office of Water Information Quality Guidelines Checklist for *Influential Information*

Influential Information has or will have a clear and substantial impact on important public policies or private sector decisions. (Includes OMB economically significant actions, peer reviewed documents, top Agency policy documents, and other actions on a case-by-case basis.)

- ☐ The information to be disseminated is covered under The Guidelines.
- ☐ The information is in compliance with EPA's Quality System and other related policies.
- ☐ The information is in compliance with Office of Water's Quality Management Plan.
- ☐ The information is consistent with the OMB definition of "quality," meaning the information has a high level of objectivity, utility, and integrity.
 - ☐ Objectivity: information is presented in an accurate, clear, complete, and unbiased manner, and as a matter of substance, is accurate, reliable, and unbiased.
 - ☐ Integrity: the information cannot be compromised through corruption or falsification because it is secure from unauthorized access or revision.
 - ☐ Utility: the information is useful to the intended users.
- ☐ The information meets "reproducibility" standard.
The information and its accompanying documentation has a higher degree of transparency regarding the following:
 - ☐ The source of the data used
 - ☐ The various assumptions employed
 - ☐ The analytic methods applied
 - ☐ The statistical procedures employed

Division Director's Signature & Date

IQG Officer for OW Signature & Date
(Officer Signature Not needed for

OGWDW staff)

**If your information does not comply with any of these items, please attach brief explanation of any omissions. Please forward a copy of this document to your office's Quality Assurance Officer.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-09



Other



Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2013

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

Asbestos Archiving

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Task I

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 09/05/2012 To 06/22/2013

Comments:



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee: \$0.00

LOE:

06/23/2009 To 06/22/2013

This Action:

\$0.00

Total:

\$0.00

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

09/20/2012

Cost/Fee:

LOE: 558

Cumulative Approved:

Cost/Fee: \$49,168.00

LOE: 558

Work Assignment Manager Name Tom Simons

Branch/Mail Code:

Phone Number 202-566-0517

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

3-09

☐ Other ☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2013

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

Asbestos Archives

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Task IV

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 09/05/2012 To 06/22/2013

Comments:



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

06/23/2009 To 06/22/2013

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Tom Simons

Branch/Mail Code:

Phone Number 202-566-0517

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

Contract Number: EP-W-09-024

Work Assignment Amendment: 3-09

Title: Archiving and Scanning Asbestos-related Documents

I. Purpose

This work assignment will support the Environmental Protection Agency's (EPA's) effort to inventory, scan and archive asbestos related documents located within the Office of Pollution Prevention and Toxics (OPPT), National Program Chemical Division (NPCD). The contractor shall also examine past Freedom of Information Act (FOIA) requests related to asbestos matters received by NPCD so that collected materials that were responsive to the FOIA requests may more easily be provided to FOIA requesters in the future. This work is necessary to properly organize, archive and make available to the public asbestos-related documents as the Agency shifts resources away from the Toxic Substances Control Act (TSCA) asbestos program.

II. Scope of Work

Task I: Inventory, organize and archive all asbestos-related documents including correspondences, publications, technical reports, interpretive guidance, and asbestos regulatory related documents housed in NPCD office space and from the TSCA Assistance Information Service (TAIS). EPA will make the TAIS documents available to the contractor onsite at the NPCD office space.

Task II: Scan asbestos-related documents into electronic format (i.e., Adobe PDFs) that are selected by EPA for scanning.

Task III: Examine historical FOIA requests received over time on asbestos-related topics and advise EPA on how to index or otherwise format the relevant electronic files so that they are easy to retrieve in the event of future FOIA requests.

III. Deliverables:

Task I: Provide in labeled boxes inventoried and organized archives of all asbestos-related documents described in Task I of the scope of work.

Task II: Provide to EPA Adobe PDF files of scanned asbestos-related documents on compact discs.

Task III: Provide EPA recommendations on how to index and categorize information provided in past asbestos-related FOIA requests within 30 calendar days of receiving the signed work assignment from the contracting officer.

This work relates to Task IV of the current Statement of Work

A work plan is required.

CBI does not apply

VI. Period of Performance

This work assignment will start on the date of the contracting officer's signature and extend through June 22, 2013.

V. Level of Effort

This work assignment shall require a total of 510 professional hours.

VI. EPA Contacts

WAM

Tom Simons
EPA Washington, DC 20480
(202) 566-0517

DEPUTY WAM

Robert Courtnage
EPA Washington, DC 20480
(202) 566-1081

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 4-05 <input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024	Contract Period 06/23/2009 To 06/22/2014 Base Option Period Number 4	Title of Work Assignment/SF Site Name PCB Permits								
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW Tasks I, II, and III								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 06/23/2013 To 06/22/2014								
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
06/23/2009 To 06/22/2014										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee:		LOE:						
Cumulative Approved:		Cost/Fee:		LOE:						
Work Assignment Manager Name Amy Hensley						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number 703-305-5084				
						FAX Number:				
Project Officer Name Cynthia Bowie						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 202-564-7726				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number:				
						FAX Number:				
Contracting Official Name Christine Edwards						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 202-564-2182				
						FAX Number:				

STATEMENT OF WORK

Contract Number: EP-W-09-024, Option 4

Work Assignment: 4-05

Title: Performance Based Work Assignment -Technical Support for PCB Permits and Document Development

This work assignment amendment is a continuation of work begun under work assignment 3-05 of this contract. No work shall be duplicated.

Background:

The Toxic Substance Control Act (TSCA) of 1976 requires EPA to develop rules to regulate the manufacture, processing, distribution in commerce, use, or disposal of chemical substances. Section 6(e) of the Act specifically names polychlorinated biphenyls (PCBs), requiring rules to specify methods for the disposal of PCBs.

Regulations promulgated in Subpart D of 40 CFR 761 authorize EPA to issue PCB disposal approvals, valid nationwide, to mobile disposal facilities and fixed facilities as well as issue PCB alternative decontamination approvals. TSCA regulations delegate signatory authority to the Assistant Administrator of the Office of Solid Waste and Emergency Response (OSWER) for permits issued by EPA. In FY 2008, EPA transferred the administration and implementation of the Toxic Substances Control Act's (TSCA) Polychlorinated Biphenyl (PCB) Cleanup and Disposal Program from the Office of Prevention, Pesticides and Toxic Substances (OPPTS) to the Office of Solid Waste and Emergency Response (OSWER).

Individuals seeking approvals to dispose of PCBs or decontaminate PCB-contaminated materials must submit a permit application and a demonstration plan for EPA review. EPA reviews the permit application for completeness. The application must include the demonstration plan indicating a demonstration can be performed safely with a good probability of success. Once the application review is complete, EPA will require the company to demonstrate the operation of its technology under reasonable worst case operating conditions. EPA will issue an approval to operate the alternative disposal or decontamination technology once the company has demonstrated their PCB disposal or decontamination process is effective, the technology is capable of processing PCB material without frequent breakdowns, and does not present unreasonable risks to health and the environment.

Typically, PCB disposal technologies are classed into three categories, (a) incineration, (b) thermal alternative technology, and (c) non-thermal alternative technology. Alternative technologies include surface and aqueous media decontamination processes. The alternative disposal technology must be demonstrated in the presence of EPA evaluators. During the demonstration, EPA will collect samples of materials before and

after treatment to confirm the PCBs were destroyed. Upon confirmation of PCB destruction, EPA will issue an approval for the technology.

I. Purpose:

Any person wishing to dispose of PCBs must use approved methods and must obtain an approval. Several methods for disposal and decontamination are listed in §761, but alternative technologies for disposal and decontamination may be used if an approval is granted by the EPA. Persons can apply to the EPA for approval of PCB disposal by non-thermal alternative methods (§761.60(e)), alternative decontamination procedures (§761.79(h)), thermal alternative methods (§761.60(e)), and incineration (§761.70). EPA must confirm the PCB Disposal and decontamination technologies demonstrated by permit applicants comply with EPA requirements. To accomplish this, EPA will require contractor support.

At the direction of the Work Assignment Manager (WAM), the contractor shall prepare and ship sampling kits to sites designated by the WAM. EPA will collect samples during the PCB Disposal or Decontamination Demonstration, pack the samples, and send the samples to the contractor. The contractor shall analyze samples collected by EPA to confirm the technologies destroy and/or remove PCBs from various waste feed matrices or materials. The contractor shall prepare QA samples in a variety of matrices for EPA to evaluate the laboratory facilities to be used by the applicant during commercial PCB Disposal or Decontamination operation or during the PCB Disposal or Decontamination demonstration. The contractor shall transmit preliminary analytical results of the demonstration samples to EPA. These preliminary results will assist EPA in determining the efficacy of the new disposal or decontamination technologies.

The contractor shall develop a document that will help persons apply for approvals for alternative technologies under §761. The document will discuss requirements for approval applications, demonstration test plans, demonstration test reports, as well as describe the approval process and how to conduct a demonstration. Other elements may be requested by the WAM.

The contractor shall also develop other documents that will provide information to the regulated community on how to cleanup and dispose of PCBs in compliance with the PCB Regulations (§761). These documents will help persons apply for disposal and cleanup PCB approvals from the EPA.

II. Scope of Work:

A. PCB Disposal and Decontamination Demonstrations. There are approximately five possible demonstrations covered under this work assignment. Generally, EPA collects a set of samples for starting material or feed, samples of treated material and samples of process waste. At times, in addition to the standard samples for feed, process streams, and process waste, questionable process or waste streams may be sampled to clarify regulatory status of the material. Also, blind QA audit samples may, at

the direction of the WAM, be shipped to the laboratory selected to perform the permit applicant's product analysis during commercial operations. For the different types of demonstrations, the estimated number of samples and type of samples to be collected by EPA for analysis are listed below. Possibility exists that one of the demonstrations may involve sampling and analysis of low radioactive material.

1 – Alternative Thermal technology approval. Feed and treated material may contain low radioactive substances.

Samples: Liquid or non-liquid feed (3), treated material (3), water discharge (3), QA samples (3).

2 – Alternative Non-thermal technology approval. Feed and treated material may contain low radioactive substances.

Samples: Liquid or non-liquid feed material (3), treated material (3), water discharge (3), QA samples (3).

3 – Alternative decontamination approval.

Samples: Wipe samples before treatment (3), wipe samples after treatment (3), QA samples (3), water discharge (3).

B. Documents on PCB Cleanup and Disposal – Any person wishing to dispose of PCBs must use approved methods and must obtain an approval. The person must first submit an application package to their EPA Regional Office or to EPA Headquarters, depending on the signing authority for their approval. For disposal approvals, demonstrations are often required, which involve submission of test plans and test results to the EPA. This work assignment amendment covers the development of documents that describe the components of and level of detail needed for PCB disposal or cleanup approvals.

B. Work Tasks

Task 1. Task Management

The contractor shall prepare and submit a work plan. Work under this task shall include participating in conference calls, meetings, preparing the monthly progress report and other task management. This work assignment does not require a QA/QC plan as one has already been provided as part of the original assignment. This statement of work also requires the use of TSCA CBI.

NOTE: The tasks below represent all of the possible items that may be required by EPA to support the PCB cleanup and disposal program. Written technical direction will be provided by the WAM which will specify the items and quantities needed for each permit.

Task 2. Sample Collection and Analysis

A. EPA will observe on-site the PCB Disposal or Decontamination Demonstrations and will collect samples and transfer the samples to the contractor. The contractor shall analyze the samples appropriately, as outlined below.

- (1) For analysis of polychlorinated biphenyls (PCBs), the contractor shall analyze samples for classes of PCB compounds named Aroclor. These compounds include but are not limited to the following:

Aroclor 1242	Aroclor 1264
Aroclor 1254	Aroclor 1016
Aroclor 1260	

- (2) For analysis of PCBs, the contractor shall provide analytical instrument capability and methodologies to analyze and to identify the 209 congeners of polychlorinated biphenyls.
- (3) For analysis of PCBs, the contractor shall provide analytical instrument capability and methodologies to analyze and to identify PCBs, separating and quantitating the identified PCBs in homologs from mono- to deca-chlorinated biphenyls. The analytical standard to be used shall be the Dry Color Manufacturer Association (DCMA) standard or equivalent.
- (4) The contractor shall transmit analytical results of the demonstration samples to EPA in three stages. First, the raw data will be submitted by telephone or email as directed by the WAM. These results will assist EPA in determining the efficacy of the new disposal or decontamination technologies. Second, the contractor shall prepare a draft digital report. Third, after receiving comments from the WAM, the contractor shall then prepare the final analytical results which incorporate the WAM's comments.
- (5) The contractor shall analyze for other pollutants of interest as directed by the WAM. For example, PCBs in the U.S. is in short supply. The possibility exists that surrogates for PCBs may necessarily be used during PCB Disposal or Decontamination Demonstration. Should surrogates be used, the contractor shall analyze samples for the surrogates. An example of a surrogate is trichlorobenzene.

B. Sample Media. The contractor shall implement analytical methods suitable to the medium of interest. Examples of media include crankcase oil; mineral oil; solvents such as ethylene glycol; soils such as clay, sediment or sand; fly ash; and clinkers.

C. Sampling Kit.

- (1) The contractor shall provide sampling kits (described below) for each demonstration suitable for the collection of samples of various media, but not limited to bulk solids such as soil; and bulk liquids such as fuel oil, solvents and water.
 - (2) The contractor shall provide a sampling kit suitable for the collection and analysis of samples from porous surfaces (concrete, paint) and non-porous surfaces (metal).
- D. For thermal technologies including incineration, the contractor may be requested by the WAM to observe the collection of samples from various process streams and obtain split samples for analysis by the contractor.
 - E. The contractor may be requested to provide personnel with appropriate experience and appropriate certificates to take the samples for any of the technologies and any of the media.
 - F. The contractor shall submit a preliminary analysis to the WAM for review and comment. Upon receipt of the comments the contractor shall incorporate the comments into the final report.

Task 3. PCB Disposal and Decontamination Demonstration Requiring Review of Sampling Protocols

- A. For thermal technologies including incineration, the contractor may be requested by the WAM to review the applicant's demonstration trial burn plan, to determine/plan the work schedule. Contractor should already be familiar with the process and equipment, from previous work with identical incinerator equipment.
- B. For thermal technologies including incineration, the contractor may be requested to determine if the applicants' stack emission sampling protocols to be used during the trial burn comply with EPA standards.

Task 4. Sampling Kit for PCB Disposal and Decontamination Demonstrations

The contractor shall provide, at the direction of the WAM, a sampling kit for EPA PCB Disposal or Decontamination technology evaluators. Sampling items are to be shipped in a cooler ranging in size from one (1) gallon to ten (10) gallons, as appropriate. Packing material must be provided and used as appropriate to minimize breakage of items.

At minimum, the following items shall be provided in the shipping cooler:

- A. Traceability Log Forms (3 sheets minimum)

- B. Quadruplicated bar codes in self-adhering format (3 sheets - 15 codes minimum per sheet). Traceability forms must accommodate bar codes and sample description.
- C. Labels for sample containers to identify samples.
- D. Disposable gloves (12 pairs minimum)
- E. Wide mouth 100 ml. sampling jars, or 40 ml. vials "VOC" sampling type, or a mixture of jars and vials as specified by WAM.
- F. Spatulas, two medium size, metal
- G. One fine tip marker, waterproof
- H. Two writing pens, ball point or fine felt tip
- I. "Blue ice" or chemical ice pack for sample preservation
- J. Evidence tape, 2 feet in length
- K. Shipping bill or air bill prepared for shipping samples to Contractor on overnight basis
- L. "Zip locking" plastic bag to protect documents
- M. Extra sampling containers in case of breakage or process anomaly
- N. Paper towels, e.g. "Kimwipes"

Blind QA audit samples shall be prepared to evaluate laboratory(s) designated by applicants to analyze samples for the demonstration or for commercial operations. The audit sample(s) may be prepared using various media such as sand, oil or water. Optional items below, which are required at times, specified by the WAM, for specific projects.

- O. One-liter jars for aqueous samples, quantity to be specified.
- P. Wipe Sampling Kit:
 - (1) Folded cotton gauze pad (e.g. 4"x4"), inserted in 100 ml wide mouth jar
 - (2) Gauze pad saturated with solvent (e.g. hexane)
 - (3) Template for wiping 100 centimeter square area or as specified
 - (4) Template disposal or reusable, as specified
 - (5) Quantity to be specified by WAM
 - (6) Solvent to be specified by WAM
- Q. Spoon or other instruments for sampling

III. Deliverables:

Task 1. Within 15 days of issuance of the work assignment amendment, the contractor shall submit a Work Plan for review and acceptance.

Task 2. Results. Within two weeks of receipt of samples unless otherwise approved by the WAM, contractor shall submit raw data of the sample chemical analysis. These raw data shall be transmitted in the form of a phone call or email as directed by the WAM. Within three weeks of the receipt of the samples the contractor shall provide a draft digital report of the chemical analysis. When the EPA provides comments on the draft digital report the contractor shall produce a final report within 30 days of the receipt of the EPA's comments. The final report shall be in pdf or other format (.doc) as specified by the WAM.

Task 3. Within 20 days of receipt of a copy of the permit applicant demonstration plan, the contractor will review and submit a summary report of the demonstration plan.

Task 4. Within 7 days of request by the WAM, the contractor will ship a sampling kit to the demonstration site for use by EPA or its representative.

A Work Plan is required.

EPA will approve the work plan within 30 days.

CBI does apply.

This work assignment amendment relates to Tasks I, II, and III of the current Statement of Work (SOW) of the contract.

The contractor's performance shall be judged by 1) timeliness in meeting the four week deadline for submission and 2) completeness by including all the required QAP elements. See section on Performance Measures below.

Performance Measures:

The government shall review the promptness of submitting the Field Study QAP as required in this WA. If the contractor is late by more than 14 calendar days, from the due date specified in the WA, on the QAP, the government shall take a 10% reduction in the fee associated with the QAP. The reduction shall be applied to all fees, both the paid fee and unpaid fee.

The government shall review the completeness of the QAP as required in this WA. If the contractor's QAP is missing one or more of the required elements, as listed in the WA, the government shall take a 10% reduction in the fee associated with this WA. The reduction will be applied to all fees, both the paid fee and the unpaid fee.

The government shall review the results of the physical testing as required in the Tasks of this WA. If the contractor has failed to perform the physical testing in accordance with the latest approved QAP for that element, the government shall take a 30% reduction in the fee associated with that work. The reduction will be applied to all fees, both the paid fee and the unpaid fee.

IV. Period of Performance:

This work assignment will start on ^{June 23, 2013} ~~the date of the contracting officer's signature~~ and extend through June 22, 2014.

V. Level of Effort:

This work assignment amendment shall require 268 hrs professional hours.

VI. EPA Contact:

Work Assignment Manager:

Amy Hensley
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1200 Pennsylvania Ave NW
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Courier Service Address:
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Arlington, VA 22202

Alternate Work Assignment Manager:

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1200 Pennsylvania Ave NW
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Courier Service Address:
Potomac Yard North
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Room N-6832
Arlington, VA 22202

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 4-02			
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:			
Contract Number EP-W-09-024			Contract Period 06/23/2009 To 06/22/2014 Base Option Period Number 4			Title of Work Assignment/SF Site Name Chem Hazard/Risk Evaluation			
Contractor BATTELLE MEMORIAL INSTITUTE				Specify Section and paragraph of Contract SOW					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval						Period of Performance From 06/23/2013 To 06/22/2014			
Comments: The contractor may not exceed \$44,200 without Technical Direction from the Project Officer.									
<input type="checkbox"/> Superfund		Accounting and Appropriations Data					<input checked="" type="checkbox"/> Non-Superfund		
SFO (Max 2) <input type="checkbox"/>		Note: To report additional accounting and appropriations data use EPA Form 1900-69A.							
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars) (Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1									
2									
3									
4									
5									
Authorized Work Assignment Ceiling									
Contract Period		Cost/Fee: \$0.00		LOE: 0					
06/23/2009 To 06/22/2014									
This Action:		\$65,061.00		500					
Total:		\$65,061.00		500					
Work Plan / Cost Estimate Approvals									
Contractor WP Dated: 07/03/2013		Cost/Fee: \$65,061.00		LOE: 500					
Cumulative Approved:		Cost/Fee: \$65,061.00		LOE: 500					
Work Assignment Manager Name Jeffrey Taylor						Branch/Mail Code:			
_____ (Signature) (Date)						Phone Number 202-564-8828			
						FAX Number:			
Project Officer Name Cynthia Bowie						Branch/Mail Code:			
_____ (Signature) (Date)						Phone Number: 202-564-7726			
						FAX Number:			
Other Agency Official Name						Branch/Mail Code:			
_____ (Signature) (Date)						Phone Number:			
						FAX Number:			
Contracting Official Name Christine Edwards						Branch/Mail Code:			
_____ (Signature) 7/24/2013 (Date)						Phone Number: 202-564-2182			
						FAX Number:			

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

4-02

☐ Other ☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2014

Base

Option Period Number 4

Title of Work Assignment/SF Site Name

Technical Support to Chem...

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Tasks II and III

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 06/23/2013 To 06/22/2014

Comments:



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period

Cost/Fee:

LOE:

06/23/2009 To 06/22/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Jeffrey Taylor

Branch/Mail Code:

Phone Number 202-564-8828

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

Contract Number: EP-W-09-024

Work Assignment Number: 4-02

Title: Technical Support to Chemical Hazard and Risk Evaluation and Risk Management

Purpose:

This work assignment continues and expands upon the work initiated under Work Assignment 3-02 of Contract EP-W-09-024. No work performed under previous work assignments will be duplicated under this work assignment.

I. Background:

This work assignment, entitled *Technical Support to Chemical Hazard and Risk Evaluation and Risk Management*, was developed to provide EPA with support in analyzing existing chemicals and pursuing follow-up work for those chemicals that have the highest hazard and risk.

EPA's Existing Chemicals Program addresses pollution prevention, risk assessment, hazard and exposure assessment and characterization, and risk management for chemical substances in commercial use. For the chemicals that EPA identifies as high hazard and risk, EPA will choose from among many actions that it is authorized to take under the current Toxic Substances Control Act. The Agency may pursue such regulatory actions as restricting chemical use through banning its manufacture/import, issuing Significant New Use Rules that require manufacturers/importers to alert EPA of any new uses, and publishing test rules that require the chemical industry to supply EPA with additional data. Among other options, the Agency will also analyze safer substitute chemicals and consider voluntary phase-outs from the chemical manufacturers.

II. Scope of Work:

Subtask 1. Work Plan and Task Management

The contractor shall prepare and submit a technical and financial work plan in accordance with the requirements of this contract. Work under this subtask will include participating in conference calls, preparing monthly progress reports, and other task management.

Subtask 2. Chem View Support

The contractor shall assist EPA with managing chemical data for the Chem View project. Work may include populating a database that the Chemical Control Division will supply to the Information Management Division. The contractor may need to analyze proposed and final Significant New Use Rules in order to populate the database. Work may also include supply Federal Register PDFs that contain metadata in the "Properties" fields of the PDFs.

Subtask 3. Miscellaneous Hazard, Exposure, and Risk Analyses

The contractor shall conduct analyses regarding other miscellaneous risk management projects as the need arises.

III. Deliverables:

Subtask 1.	The contractor shall prepare and submit the work plan in accordance with contract requirements.	
Subtask 2.	Chem View	At WAM's Request.
Subtask 3.	Miscellaneous Hazard, Exposure, & Risk Analyses	At WAM's Request.

- EPA will approve the work plan within 45 days.
- A QA plan is not required.
- A work plan is required.
- CBI does apply.
- The work assignment relates to: Task II, Subtask 1; Task III, Subtasks 1, 8, and 13; and Task IV, Subtask 3 of the SOW.

IV. Period of Performance:

This Work Assignment will start on June 23, 2013 and extend through June 22, 2014.

V. Level of Effort:

The level of effort described in this work assignment shall not exceed 500 professional hours.

VI. EPA Contacts:

Work Assignment Manager

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File

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 4-03								
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024	Contract Period 06/23/2009 To 06/22/2014 Base Option Period Number 4	Title of Work Assignment/SF Site Name Chem Mix. Tox.								
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW Task III								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/10/2013 To 06/22/2014								
Comments: Application of Statistics to Chemical Mixtures Toxicology										
Accounting and Appropriations Data										
<input type="checkbox"/> Superfund <input checked="" type="checkbox"/> Non-Superfund										
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: 06/23/2009 To 06/22/2014		Cost/Fee:		LOE:						
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		Cost/Fee:		LOE:						
Cumulative Approved:		Cost/Fee:		LOE:						
Work Assignment Manager Name Tony McDonald						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align:right">(Signature)</div>						Phone Number 919-541-1476				
						FAX Number:				
Project Officer Name Cynthia Bowie						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align:right">(Signature)</div>						Phone Number 202-564-7726				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align:right">(Signature)</div>						Phone Number:				
						FAX Number:				
Contracting Official Name Christine Edwards						Branch/Mail Code:				
<div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="text-align:right">(Signature)</div>						Phone Number 202-564-2182				
						FAX Number:				

Contract Number: EP-W-09-024

Work Assignment 4-03

Title: Application of Statistics to Chemical Mixtures Toxicology

Purpose: The purpose of this work assignment is to provide statistical expertise and modeling in support of mixtures research being conducted under the Safe and Sustainable Water Research (SSWR) National Research Program of the U.S. EPA. Specifically, this work assignment is for statistical effort to: develop power calculations and sample size estimates for pre-determined effect magnitudes for health endpoints, examine regression modeling approaches (first priority and then other approaches) to discern the contributions of individual chemicals and chemical groups to the toxicity of a chemical mixture; and, to provide expert consultation and advice in interpretation of results of analysis of THM mixtures and HAA mixtures for consistency with dose additivity.

I. Background:

While the need for toxicological research with both defined and complex mixtures of disinfection byproducts (DBPs) is recognized, the lack of appropriate statistical methods both to design appropriate experiments (e.g. power calculation methods to determine appropriate samples sizes to detect differences between treated groups and controls, if such differences exist) and the lack of methods to determine when the effect of defined mixtures of chemicals deviates from that expected under an assumption of dose additivity, has hindered the ability to develop data needed by EPA to evaluate the potential human health risk that might be associated with use of disinfected water.

Under the Safe and Sustainable Water National Research Program (SSWR), EPA is conducting a coordinated series of studies to understand the toxicity of mixtures of disinfection DBPs. DBPs are chemicals formed during the disinfection of drinking water. DBPs have been associated with adverse health effects through epidemiological and toxicologic studies.

SSWR Task 2.2.D (Integrated Assessment and Reduction of Contaminant Risks) addresses high priority needs that the Office of Water (OW) faces for CCL contaminants and DBPs, endeavoring to do so as much as resource constraints allow, within a context of water sustainability across the cycle of source water, water use and re-use. This approach is highly multi-disciplinary; innovative in taking a holistic look at source water, the derived drinking water and resulting wastewater (source-to-tap); and broad in that it strives to investigate both ecological and human health risks from water contaminants. Studies will assess different source waters (CCL focus) and different drinking water (CCL and DBP focus) and wastewater treatments (CCL and DBP focus), contaminants present and their concentrations, DBPs formed and their concentrations, and the relative toxic potency of the mixtures. Understanding those contaminants and contaminant groups that pose the greatest risks to human and ecological health will allow risk management and remediation efforts to focus on those that provide the greatest reduction in risk. Integrating toxicological assessments into risk remediation and reduction research provides

immediate and valuable feedback into those treatments/remedial activities that actually reduce health risk.

This task contains a portfolio of single-chemical, defined mixture, and complex mixture experiments, integrated with chemistry and engineering, that will provide information that bridges the gap between single-chemical studies and the epidemiological literature. This will improve our ability to estimate the risk(s) from complex mixtures at low exposure concentrations and multiple exposure routes by studying health effects and endpoints consistent with those in positive epidemiological studies and allow for comparison of the relative toxic potency of different mixtures in in vitro screens.

Toxicological studies will assess different source waters (CCL focus, DBP focus) and different drinking water (CCL and DBP focus) and wastewater treatments (CCL and DBP focus), the contaminants present and their concentrations, the DBPs formed and the relative toxic potency of the mixtures. In addition to consideration of the toxicity of source water and CCL contaminants as individual chemicals and contaminant groups, we will examine the influence of water treatment (drinking water, wastewater) on the contaminants present in source water. The first disinfection study will compare chlorine and chloramines, understanding their toxicity in vivo and in vitro and the source water characteristics and contaminants that drive DBP formation and toxicity. In addition, different precursor removal technologies will be investigated for reduction of DBPs and other contaminants. By considering different source water characteristics and how they change with land use practices, we will gain an improved understanding of the relative toxic potency of the mixtures of DBPs formed with disinfection of source waters of varying characteristics (TOC, Br⁻, I⁻) containing differing background contaminants, by alternative disinfection scenarios. Ultimately, a matrix of source waters and disinfection scenarios with the associated toxic potencies of the resulting mixtures and key chemicals within the mixtures will provide useful guidance to water utilities on those disinfection practices best suited for their particular source water. Such a data base is essential to development of models that will allow us to forecast chemical risk scenarios when alternative water disinfection strategies are applied to differing source waters and complex chemical mixtures in drinking water.

Toxicological studies will make extensive use of in vitro assays and rapid, short-term screening assays to conduct integrated chemical and toxicological assessments of contaminants groups, including both defined mixtures and environmentally realistic complex mixtures representative of contaminants as they exist in waters and as they exist after treatment for either drinking water or wastewater purposes. The goal is to identify those contaminant groups present in surface and ground waters that pose the greatest risk to aquatic and human health and identification within contaminant groups of those chemicals responsible for the greatest portions of toxicity (toxicity apportionment).

Predictive models for estimating the effects of contaminants groups will be developed and used that have the ability to forecast the effects of contaminant groups from single chemical data, creating models that are predictive even when mixture composition changes (fewer chemicals in the mixture, more chemicals in the mixture, the mixing ratio changes as the mixture moves downstream or through the water system). The goal is to develop flexible and accurate predictive

models for estimation for toxicity of contaminant groups that allow for addition and deletion of contaminants and varied specification of chemical concentrations (to enhance usefulness across a spectrum of situations).

II. Scope of Work

The EPA WAM will identify the specific deliverables, corresponding delivery dates, and provide additional technical clarification/directives regarding the tasks of the work assignment listed below through written technical directives (except for tasks 1, 2, and 3). Each initial deliverable shall be provided to the EPA WAM in draft form for review and comment. The contractor shall incorporate procedures to ensure that these drafts completely document the methodologies; use appropriate assumptions; are accurate, complete, and as specified in the work assignment or written technical direction before providing them to the EPA. The contractor shall incorporate EPA review comments into revisions of the drafts. All drafts and final reports shall be approved by the EPA WAM. A work plan is required (Task 1) and a QA/QC is required (Task 2). CBI does not apply to this WA. This work assignment relates to Task II (Data Analysis) of the current Statement of Work (SOW) of the contract.

1. Workplan

The contractor shall prepare a detailed work plan for each task in this work assignment. The work plan must state that the QA/QC plan will be observed during the conduct of this work assignment.

2. QA/QC Plan

The contractor shall prepare a quality assurance project plan that incorporates the other specific requirements for this work assignment for purposes of quality assurance.

3. Review Background Documentation

The contractor shall review background documentation about the project. The EPA will provide publications and draft manuscripts that describe the Four Lab Study in detail, including all results to date. Additionally, the EPA will serve as a resource for relevant literature and background materials relevant to completion of the tasks.

4. Attend Kick-off Teleconferences

The contractor shall participate in a teleconference to address any questions that the contractor may have regarding the scope and goals of tasks 6, 7 and 8, and discuss the data, analytic requirements, relevant background information and available literature. A teleconference shall be conducted specific to each of tasks 6, 7 and 8. Additionally, the contractor shall prepare summary notes which clearly summarize the teleconferences.

5. Data Quality

The contractor shall assess databases to evaluate their data quality and integrity. The contractor shall identify outliers and questionable data by reviewing data listings and summaries, applying statistical methods, and using graphical methods. The contractor also shall review the data for missing values, censoring patterns, and appropriate units of measure (e.g., milligrams/liter).

6. Experimental Design Recommendations for 4 Lab Chlorine/Chloramine Study

The contractor shall conduct power calculations using data from the Trial Run, the defined and complex mixture studies Full Studies that were conducted in 2005 and 2006 and other available dose-response data on single DBPs and DBP mixtures. The contractor shall compare these results with the current experimental design for the Chlorine/Chloramine Study and make recommendations regarding the number of animals per dose group that should be used in the Chlorine/Chloramine Study to maximize the opportunity to observe adverse effects as they are produced by the mixture (compared to control) and to maximize the opportunity to discern differences between exposure to chlorine and exposure to chloramine.

The contractor shall develop power calculations and sample size estimates for pre-determined effect magnitudes for health endpoints in rats, including pup weight, prenatal loss, in vitro fertility, sexual maturation and others. The contractor shall determine whether sufficient toxicological data are available to conduct power calculations and sample size estimates in mice. If sufficient mouse data are not available, the contract shall determine if rat/mouse relative potency estimates of single chemical data allow power calculations and sample size estimates to be determined for mice. The contractor shall provide a report containing these results.

7. Methods to Determine the Contribution(s) of Individual Chemicals and Chemical Groups to the Toxicity of a Chemical Mixture

The contractor shall examine approaches used to discern the contributions of individual chemicals and chemical groups to the toxicity of a complex mixture. To accomplish this, the contractor shall review the available literature specific to statistical methods for discernment of the contributions of chemicals and groups of chemicals to toxicity. The EPA shall contribute publications known to them in this area as well as literature searches that the EPA has conducted to determine relevant publications. A report shall be written that includes regression modeling approaches and other approaches deemed relevant such as machine learning tools, principal component analysis, and component contribution score. The report shall include the data needs for the various methods as well as advantages and disadvantages associated with the various methods.

8. Expert Consultation on provide expert consultation and advice in interpretation of results of analysis of THM mixtures and HAA mixtures for consistency with dose additivity.

Using reports furnished by the U.S. EPA, the contractor shall provide consultation that provides insights into the interpretation of the results of statistical analyses of mixtures data. Two specific

data groupings will be considered. The first consists of in vivo toxicity data on individual trihalomethanes (chloroform, bromodichloromethane, chlorodibromomethane, bromoform) and the six possible binary combinations of these four chemicals. The second consists of in vitro toxicity data on ten haloacetic acids and mixtures of these ten chemicals (three 5-chemical mixtures, three 9-chemical mixtures and one 10-chemical mixture).

9. Develop computer programs

The contractor shall ensure that all databases, computer programs, and the corresponding documentation developed under this contract are accessible to the EPA Project Officer, the EPA WAM, and persons authorized by them. The contractor shall provide this computer programming support to technically support the statistical analysis specified in other areas of this statement of work. All computer programs shall be well documented internally to facilitate EPA's review. Furthermore, the contractor shall use SAS, the Agency standard software for statistical analysis.

10. Prepare documentation

The contractor shall provide documentation for products in the other areas of this work assignment. The contractor shall provide documentation in computer files, and in hardcopy, upon specific request. The contractor shall incorporate EPA comments into revisions of the draft documentation. In all cases, the statistical algorithms and data used to generate results shall be provided electronically as well as in the appendix of the draft and final reports.

In any documentation, the contractor shall clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources, and data that support the results and any recommendations. The contractor also shall document alternative methods, procedures, and assumptions that the contractor considered in the statistical analysis. Further, the documentation shall be labeled with the name of the contractor and the EPA contract number. (For example, a memorandum explaining the results of a statistical analysis shall be placed on company letterhead and the subject line will include the phrase 'EPA Contract EP-W-09-024'.

11. Internal Documentation

The contractor shall internally document all assumptions, data sources, databases, procedures, statistical analyses, and computer programming code so that results can be replicated even if the originating staff members are no longer available. The contractor shall provide access to this internal documentation upon request by the EPA WAM.

IV. Period of Performance: This work assignment will start on the date of the contracting officer's signature and extend through June 22, 2014.

V. EPA contacts

Work Assignment Manager:

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Alternate Work Assignment Manager:

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Pharmacokinetics Branch
Integrated Systems Toxicology Division
National Health and Environmental Effects Research Laboratory
U.S. Environmental Protection Agency
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e-mail: Sey.Yusupha@epa.gov

VI. Deliverables and Schedule

The following is a list of the deliverables required under this work assignment.

<u>Task</u>	<u>Deliverable</u>	<u>Date</u>
1	Work plan	As required by the contract.
2	QAPP	Initial draft due 15 days following receipt of Work Assignment. Revisions delivered as specified in technical directions.
3	Knowledge about previous statistical work (i.e., contractor needs to read background materials).	Start upon receipt of the WA
4	Kick-Off Teleconference for Task 6	At a time mutually agreement to EPA and the contractor. To take place within 4 weeks of receipt of the WA

<u>Task</u>	<u>Deliverable</u>	<u>Date</u>
5	Electronic files with the statistical analyses and quality assurance evaluations, computer programs, draft and final documentation (memoranda, reports) of results and methods used. Hardcopies, if requested in technical direction.	Following technical direction from the WA. Revisions delivered as specified in technical directions.
6	Experimental Design Recommendations for 4 Lab Chlorine/Chloramine Study	Draft rat results due no later than September 1, 2013*; draft mouse conclusions/results due no later than September 20, 2013*. Revisions delivered as specified in technical directions.
7	Methods to Determine the Contribution(s) of Individual Chemicals and Chemical Groups to the Toxicity of a Chemical Mixture	Draft due no later than March 30, 2014.* Revisions delivered as specified in technical directions.
8	Expert Consultation and Advice in Interpretation of Results of Analysis of THM Mixtures and HAA Mixtures for Consistency with Dose Additivity	Completed by June 20, 2014*.
9	Briefings on Results of Tasks 6, 7, and 8	Within 3 weeks of contractor providing the draft reports as specified for each task.
10	Computer programs and Documentation	As identified for other areas of the SOW.

* These dates may be modified by technical direction, rather than requiring workplan modification.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

4-4

☐ Other ☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2014

Base Option Period Number 4

Title of Work Assignment/SF Site Name

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Tasks I, II and III

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 06/23/2013 To 06/22/2014

Comments:



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

06/23/2009 To 06/22/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Marla Smith

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(Date)

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(Date)

Contracting Official Name Christine Edwards

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Phone Number: 202-564-2182

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Contract No. EP-W-09-024
Work Assignment 4-04

TITLE: Statistical Support for Clean Water Act

Purpose:

In addition to new tasks, this work assignment continues work for several tasks started under WA 2-14 and WA 3-4 of this contract (EP-W-09-024) and Contract Number EP-C-05-030, Work Assignments 1-1, 2-13, 3-4, and 3-13. This work assignment does not duplicate any work in the previous work assignments.

Under Work Assignments 2-14 and 3-4 (contract EP-W-09-024), the contractor produced statistical support to EPA's preliminary evaluations of impingement data to support a final rulemaking under Section 316(b) of the Clean Water Act. The rulemaking schedule was extended for a few months, and thus, EPA requires additional support from the contractor.

In addition to the follow-on work for the 316(b) rulemaking and the sewage sludge survey, this Work Assignment will provide support to complete all four surveys in the National Aquatic Resource Survey program. The projects are:

- Statistical support for impingement data collected from cooling water intake structures for a rule under Clean Water Act Section 316(b). This work continues, but does not duplicate, statistical support previously conducted under work assignments of Contract EP-C-05-030 and EP-W-09-024.
- Statistical support for data collected during EPA's sewage sludge study. This work assignment will revise the "*Targeted National Sewage Sludge Survey Statistical Analysis Report*" for a detailed evaluation of data for additional analytes. This work continues, but does not duplicate, statistical support previously conducted under work assignments of Contract EP-C-05-030 and EP-W-09-024.
- Peer review support for two reports presenting statistical analyses of data collected for the 2010 National Coastal Condition Assessment (NCCA). Contractor support is needed to identify, screen and engage suitable persons to technically review and provide timely comment. In addition, for each peer review, the contractor shall provide a report that summarizes and organizes the comments. The contractor has only been tangentially involved in this project, and thus, can appropriately support an independent peer review.
- Statistical data review and analysis support for the National Lakes Assessment (NLA) and the National Wetlands Condition Assessment (NWCA). In addition, the work assignment will provide document support for the NLA summary and technical reports.
- Quality assurance of laboratory identifications and analyses performed for the 2013-2014 National Rivers and Streams Assessment (NRSA).

This new work assignment relates to Task II Data Analysis, and to a lesser extent, Task I Data Collection, and Task III Technical Program Support - General Support, of the current Statement of Work (SOW) of the contract. In particular, the work assignment will provide support for activities authorized by the Clean Water Act. The contractor shall provide

support in areas including statistical documentation, peer review of statistical studies, statistical analysis of performance/laboratory data, statistical review and comment, and statistical documentation.

I. BACKGROUND

A. Statistical Support for Section 316(b) Rulemaking (Task 3)

The Clean Water Act, Section 316(b) requires that the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. More than 1,500 industrial facilities use large volumes of cooling water from lakes, rivers, estuaries or oceans to cool their plants, including steam electric power plants, pulp and paper makers, chemical manufacturers, petroleum refiners, and manufacturers of primary metals like iron and steel and aluminum. The Phase II rule, for existing power generators that withdraw at least 50 million gallons per day of cooling water, was promulgated on July 9, 2004. In 2007, a decision issued by the U.S. Court of Appeals for the Second Circuit (*Riverkeeper, Inc. v. EPA*, 475 F.3d 83 (2d Cir. 2007)), precluded EPA from applying the Phase II rule. In response, on July 9, 2007, EPA announced in a Federal Register Notice (72 FRN 37107) that it was suspending the requirements for cooling water intake structures at Phase II existing facilities, pending further rulemaking.

In March 2011, EPA proposed flexible technology standards that would greatly reduce damage to ecosystems while accommodating site-specific circumstances and providing cost effective options. The proposed rule covers roughly 1,260 existing facilities that each withdraws at least 2 million gallons per day of cooling water. EPA estimates that approximately 590 of these facilities are manufacturers, and the other 670 are power plants. The technologies required under the rule have been in use for several decades and have been implemented at a large number of facilities. More information about the proposed rule is available at <http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/index.cfm>.

The rulemaking schedule is part of a settlement agreement with Riverkeeper.

B. Statistical Analysis of Data from the Targeted National Sewage Sludge Survey (Task 4)

Because many chemicals tend to accumulate in sewage sludge during wastewater treatment, EPA initiated the Targeted National Sewage Sludge Survey (TNSSS) to characterize what chemicals may be present in sewage sludge. EPA collected and analyzed sewage sludge samples from 74 publicly owned treatment works (POTWs) that employ secondary treatment or better. The 74 POTWs statistically represent over 3,300 of the nation's largest POTWs. Sample collection at the 74 POTWs was conducted between August 2006 and March 2007. In April 2009, EPA released the "*Targeted National Sewage Sludge Survey Statistical Analysis Report*." The report includes minimum and maximum concentrations for 145 different analytes, including four anions (nitrite/nitrate, fluoride, and water extractable phosphorus), 28 metals, four polycyclic aromatic hydrocarbons, two semivolatile chemicals, 11 polybrominated diphenyl ethers (PBDEs), 72 pharmaceuticals, and 25 steroids and hormones. The report also includes nationally-representative estimates of the underlying distribution of concentrations across POTWs as well as an in-depth statistical analysis of a subset of 34 out of the 145 analytes. This work assignment

will support EPA in evaluating the data for the remaining 111 analytes and revising the April 2009 report.

C. 2010 National Coastal Condition Assessment: Peer Reviews (Task 5)

Numerous reports have identified the need for improved water quality monitoring and analysis at a local, state, or national scale to help determine the condition of U.S. waters and watersheds. The document "Guidelines for the Award of Monitoring Initiative Funds under Section 106 of the Clean Water Act" provides the foundation for the states, EPA, and other partners to collaborate on statistically-valid surveys of water condition at nationwide and regional scales, for all waterbody types, to improve water quality monitoring and decision making. Collectively, the surveys are called the "National Aquatic Resource Surveys." This Work Assignment will support EPA's peer reviews of documents describing for the 2010 survey of coastal areas and Great Lakes.

The National Coastal Condition Assessment (NCCA) sampled more than 1300 sites within U.S. coastal waters and Great Lakes during the summer of 2010.

The contractor shall provide peer review support for the: 1) NCCA summary report; and 2) Gulf of Mexico chapter. A third, supplementary report will describe the methodology and results for the scientific community and should be used for supplemental information to help with the peer review. The style and content of the reports will be similar to those developed for the 2008-2009 National Rivers and Streams Assessment for which the contractor provided peer review support under WA 3-4 (Contract EP-W-09-024).

The overall focus for the reviewers is to assess the technical merits of the findings in the summary report. The contractor shall provide reviewers with expertise in aquatic ecological, and biological, and analysis, and environmental statistical experts. The EPA WAM shall review and consent to the qualifications of the contractor's proposed pool of peer reviewer candidates, but the contractor is ultimately responsible for selecting peer reviewers and ensuring that they are free from conflicts of interest.

The NCCA draft schedule assumes that the peer reviews will begin in October.

D. 2012 National Lakes Assessment (NLA): Sediment Data Analysis and Document Support (Task 6)

EPA and its state and tribal partners conducted two surveys of the nation's lakes, ponds and reservoirs ("lakes"), one in 2007 and the second one in 2012. The National Lakes Assessment (NLA) is designed to provide statistically valid regional and national estimates of the condition of lakes, ponds, and reservoirs across the United States. It uses a probability-based sampling design to represent the condition of all lakes in similar regions sharing similar ecological characteristics. Consistent sampling and analytical procedures ensure that the results can be compared across the country and between survey years.

The 2012 NLA is similar in many aspects to the 2007 NLA. Both collected data from approximately 1,000 sites for the following indicators: algal toxins, benthic macroinvertebrates, chlorophyll a, nutrients, phytoplankton (index and littoral sites), sediment dating, sediment diatoms (top and bottom slices), sediment mercury, water chemistry, and zooplankton. In addition to the lake sizes sampled in 2007, the 2012 NLA incorporated another size classification to capture the quality of relatively small lakes.

The NLA staff will designate sites and assumptions for the reference site comparisons that are essential for many of the analyses. In addition, the NLA staff will classify the sites using geospatial information (e.g., watershed delineations, land cover classes). The contractor will support: 1) the subject matter interpretation and data analysis for sediments; 2) consolidation of all data analyses into a technical report with graphics; and 3) verification that the results can be reproduced using the information in the chapters. The NLA schedule assumes that:

- Preliminary data results will be discussed at an analysis meeting in February 2014, tentatively planned for three days in Corvallis, Oregon.
- Final analysis results, programs, and draft chapters will be completed by March 31, 2014.

Data and supporting documentation will be provided to the contractor as required by the EPA WAM. This documentation will include data, reports, and interim working documents. EPA provides initial QA screening and review prior to providing the data to the contractor. None of the data/information will be Confidential Work Information (CBI).

The following information is available from EPA's website:

- Statistical Analysis Methods for Biological Assessment (from *Lake and Reservoir Bioassessment and Biocriteria: Technical Guidance Document*): <http://water.epa.gov/type/lakes/assessmonitor/bioassessment/upload/lakereservoirbioassessment-biocrit-app-e.pdf>
- 2007 NLA Data: http://water.epa.gov/type/lakes/NLA_data.cfm (EPA has been unable to locate the computer programs used for the sediment analyses.)
- *National Lakes Assessment: A Collaborative Survey of the Nation's Lakes*. EPA 841-R-09-001. http://water.epa.gov/type/lakes/upload/nla_newlowres_fullrpt.pdf. This report is written for the general public.
- *National Lakes Assessment: Technical Appendix: Data Analysis Approach*. EPA 841-R-09-001a. http://water.epa.gov/type/lakes/upload/nla_technical_appendix.pdf. This document provides the technical basis for EPA's conclusions in the report.
- 2012 NLA Site Evaluation Guidelines: http://water.epa.gov/type/lakes/assessmonitor/lakessurvey/upload/NLA2012_SiteEvaluationGuidelines_v1-1_120926_FINAL.pdf

- 2012 NLA Field Operations Manual:
http://water.epa.gov/type/lakes/assessmonitor/lakessurvey/upload/NLA2012_FieldOperationsManual_120517_FINAL_CombinedORG.pdf

For ease in sharing documents and version control, the EPA WAM will provide the contractor with access to a Sharefile or Science connector site. This site will provide the contractor with access to the following NLA documents and information:

- 2012 NLA Quality Assurance Project Plan (QAPP)
- 2012 NLA Laboratory Operations Manual
- 2012 NLA preliminary and revised data sets (will be updated as the data become available). The sediment diatoms and sediment dating data are scheduled to be available on June 30, 2013 and November 30, 2013, respectively.
- 2012 NLA geospatial data (projected date is mid-June)
- 2012 NLA reference site determinations (projected date is November 1st)
- Example of a Data Analysis Plan

E. 2011 National Wetlands Condition Assessment (NWCA): Algae Data Analysis and Document Support (Task 7)

In 2011, EPA and its state and tribal partners conducted the first national survey of the nation's wetlands. Field crews sampled 1,179 sites from Florida to Alaska. The survey is designed to provide regional and national estimates of wetland ecological integrity and rank the stressors most commonly associated with poor conditions. The 2011 NWCA will provide a baseline for wetland quality in the United States.

The NWCA target population included both freshwater and saltwater wetlands for all vegetation types (woody, shrub, and emergent) based on the Cowardin classification system. Data on vegetation, soil chemistry and physical properties, algae, water chemistry, and human and natural stressors was collected at sites using standardized field and lab protocols. It was not possible to collect water chemistry, soil chemistry, and algae at all sites depending on site conditions (e.g., standing water was not present, too shallow, or too deep to obtain samples).

The NWCA staff will designate sites and assumptions for the reference site comparisons that are essential for many of the analyses. In addition, the NWCA staff will classify the sites by wetland types. The contractor will support: 1) the subject matter interpretation and data analysis for algal conditions. The NWCA schedule assumes that:

- Preliminary data analysis plans and identification of reference sites will be shared with the analysis team on July 30, 2013.
- Preliminary data results will be discussed at an analysis meeting on September 15, 2013.

- Final analysis results, programs, and draft chapters will be completed by November 1, 2013.
- Draft report and technical appendix (including a chapter drafted by the contractor) will be released for public comment in early 2014.

Data and supporting documentation will be provided to the contractor as required by the EPA WAM. This documentation will include data, reports, and interim working documents. EPA provides initial QA screening and review prior to providing the data to the contractor. None of the data/information will be Confidential Business Information (CBI).

The following information is available from EPA's website:

- Potential Frameworks for Reporting on Ecological Condition and Ecosystem Services for the 2011 National Wetland Condition Assessment:
http://water.epa.gov/type/wetlands/assessment/survey/upload/Kentula-et-al_2011_NWCA-Reporting-on-Condition-and-Services-endn.pdf
- 2011 NWCA Site Evaluation Guidelines:
http://water.epa.gov/type/wetlands/assessment/survey/upload/NWCA-Site-Evaluation-Guidelines_Jan11.pdf
- 2011 NWCA Field Operations Manual:
<http://water.epa.gov/type/wetlands/assessment/survey/upload/FOM-with-Errata.pdf>

As described for the NLA documents, the EPA WAM will provide the contractor with access to a Sharefile or Science connector site. This site will provide the contractor with access to the following NWCA documents:

- 2011 NWCA Quality Assurance Project Plan (QAPP)
- 2011 NWCA Laboratory Operations Manual
- 2011 NWCA preliminary and revised data sets (will be updated as the data become available). The preliminary algal data will be available at the start of the work assignment.
- 2011 NWCA geospatial data (at start of work assignment)
- 2011 NWCA reference site determinations (projected date is July 30, 2013)
- Draft report dated April 22, 2013 "Algal Indicator Development in Wetlands: Review and Recommendations" (Task 7 refers to this as the "April draft report.")
- Example of a Data Analysis Plan (same example as for the NLA task)

F. Quality Assurance Support for National Rivers and Streams Assessment (Task 8)

The 2013-2014 National Rivers and Streams Assessment (NRSA) is the second statistical survey of the nation's larger rivers (including the Great Rivers) and also provides a third look at the condition of small streams compared to an initial study (the Wadeable Streams Assessment or WSA) conducted in 2004. The contractor previously provided peer review support for the 2008-2009 NRSA. For 2013-2014 NRSA, the contractor shall provide quality assurance support for the laboratory analyses and identifications.

Data and supporting documentation will be provided to the contractor as required by the EPA WAM. This documentation will include data, reports, and interim working documents. EPA provides initial QA screening and review prior to providing the data to the contractor. None of the data/information will be Confidential Work Information (CBI).

As described for the NLA documents, the EPA WAM will provide the contractor with access to a Sharefile or Science connector site. This site will provide the contractor with access to the following NRSA documents:

- 2013-2014 NRSA Quality Assurance Project Plan (QAPP)
- 2013-2014 NRSA Laboratory Operations Manual (LOM)
- 2013-2014 NRSA Field Operations Manual (FOM)
- 2013-2014 NRSA data relevant for Task 8.

II. SCOPE OF WORK

Task 1: Workplan and Cost Estimate

The contractor will provide a work plan that describes the support that will be provided; identifies deliverables; and identifies potential problems that may arise in completing this work assignment on schedule and within budget. The work plan shall individually identify the estimated LOE and costs for Tasks 3, 4, 5, 6, 7, and 8. Additionally, for Tasks 7 and 8, the workplan shall identify the qualifications of appropriate subject matter experts who have demonstrated experience in reviewing and developing biological indices using sediment and algal data.

The contractor shall provide overall work assignment management and interface with the EPA WAM.

TASK 1 – DELIVERABLES	
Deliverable	Due Date
Work plan	• Due 15 calendar days following receipt of Work Assignment.

TASK 1 – DELIVERABLES	
Deliverable	Due Date
Interface with EPA WAM	• As needed

Task 2: Quality Assurance

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved QAPP prior to the commencement of the work.

QA Project Plan Requirements

EPA policy requires that an *approved* Quality Assurance Project Plan (QAPP) be in place before any work begins that involves the collection, generation, evaluation, analysis or use of environmental data. For:

- Task 3 (316(b) support), the contractor shall continue to use the approved QAPP developed under WA 2-14 and used under WA 3-4 (contract EP-W-09-024). (The final rule is imminent, so EPA does not intend to change the statistics QAPP for this work assignment.)
- Task 4 (TNSSS statistical analyses), all activities shall be performed in accordance with the QAPP from WA B-5, Contract EP-C-05-030, which shall be revised under Task 4 if necessary.
- Task 5, all activities shall be performed in accordance with Agency Peer Review Policy procedures outlined in *U.S. Environmental Protection Agency Peer Review Handbook*, 3rd edition, 2006 (EPA/100/B-06/002, http://www.epa.gov/peerreview/pdfs/peer_review_handbook_2006.pdf) and any subsequent Agency guidance. EPA will be responsible for completing the "Manager's Planning Checklist for Peer Review" on page 5 of the handbook.
- Task 6 (NLA support), the contractor shall adhere to the 2012 NLA Quality Assurance Project Plan. The contractor shall provide the EPA WAM with copies of the certification page signed by the contractor's QAO, the contract's project manager, the work assignment leader, and any other person providing substantial support to the task.
- Task 7 (NWCA support), the contractor shall adhere to the 2011 NWCA Quality Assurance Project Plan. The contractor shall provide the EPA WAM with copies of the certification page signed by the contractor's QAO, the contract's project manager, the work assignment leader, and any other person providing substantial support to the task.
- Task 8 (NRSA support), the contractor shall adhere to the 2013-2014 NRSA Quality Assurance Project Plan. The contractor shall provide the EPA WAM with copies of the certification page signed by the contractor's QAO, the contract's project manager, the work assignment leader, and any other person providing substantial support to the task.

The contractor shall review the previous QAPPs to verify that each QAPP adequately documents how quality assurance (QA) and quality control (QC) shall be applied to all activities to be performed under this work assignment. As part of this review, the contractor shall also verify

that existing QAPP content (e.g., organizational charts, roles and responsibilities, QA/QC procedures, checklists, SOPs, etc.) for Tasks 3 and 4 are still appropriate for the work to be performed under this work assignment. In addition, the contractor shall verify that the QAPPs:

- Addresses all activities identified in this PWS that involve the **generation** (including field studies, laboratory studies, and modeling output), **collection** (including surveys, literature searches, and third party data), **evaluation** (including data inspection, review, assessment, and validation), **analysis** (including statistical, engineering, and economic analysis and testing, evaluation, and validation of methods and models) **and use of data** to support EPA decisions, regulations, policy, publications or tools (including effluent guidelines, methods, criteria, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs). Examples of data include, but are not limited to, wastewater sample analysis results, flow measurements or data, facility questionnaire data, economic data, field sample data and laboratory analyses results, use of models, secondary data (including sources and the acceptance criteria), any software and database management requirements and any other relevant work that might affect the quality of the data. Note that QAPPs are also required for the development or revision of models and software that support the generation, collection, evaluation, analysis or use of data. For example, when existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model, how it shall be used, and how the model output shall be evaluated to ensure it meets the overall quality objectives for the project. However, development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that shall be applied to the model, and the procedures for evaluating whether the model meets those criteria.
- Provides enough detail to clearly describe objectives of the project supported by the work assignment; the type of data to be collected, generated, or used under this work assignment to support the project objectives; the quality objectives needed to ensure that these shall support the project objectives; and the quality assurance and quality control activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.
- Includes specific performance criteria and measures that shall be used to verify that data generated, collected or used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc.) shall be created for the project, the QAPP must describe how the database or electronic tool shall be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database).
- Explicitly references tools, such as SOPs, checklists, and guidelines that the contractor shall use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review and acceptance.
- Addresses the following general questions:
 - What is the objective/goal of this effort?
 - What are the roles and responsibilities of staff who shall support this project, and how to they relate to the specific key steps

- What training and competency requirements are necessary for key personnel that shall support the project?
 - If models shall be used to support the project, what are these models, why have they been selected, and how shall they be validated, documented, and used?
 - What are the SOPs, tools and checklists that shall be used?
- **Under no circumstances shall work that involves the generation, collection, evaluation, analysis, or use of environmental data be performed without an approved QAPP (or addendum) in place 50 work days after submission of the contractor's work plan.**
 - Under no circumstances shall field sampling or laboratory analysis activities be conducted prior to receipt of an approved work plan.
 - Any non-sampling/non-analytical work that involves the generation, collection, evaluation, analysis, or use of environmental data that is initiated prior to approval of the contractor's QAPP must be performed in accordance with the approved QAPP. (The QAPP requirements must be applied retroactively to this period that lasts no more than 50 work days from submission of the contractor's work plan.).

Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record documentation to be made available to the public.

Information contained in the approved QAPP must be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the contractor designates as confidential so that the EPA WAM can easily identify the areas that shall require rigorous robustness checks and document that those checks have been performed.

Additional QA Documentation Required

In addition to the QAPP requirements described above, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the contractor under this work assignment must include a discussion of the QA/QC activities that were or shall be performed to support the deliverable. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. For each of Tasks 3 to 8, these monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report. In addition, the contractor shall provide timely notification to the EPA WAM of any QA problems that may affect the conduct of the tasks, with recommendations for corrective actions.

Deliverables and schedule for QA Tasks

Existing QA Plans:

- a. The contractor shall review the QAPPs that it previously developed in contract EP-C-05-030 and used in WA 3-4 of this contract (EP-W-09-024) for (new) Tasks 3 and 4; and:
 - Verify that the QAPP is still appropriate for use; or
 - Recommend revisions.
- b. The contractor shall apply the:
 - Peer review guidelines as described for Task 5.
 - 2012 NLA QAPP to the support in Task 6.
 - 2011 NWCA QAPP to the support in Task 7.
 - 2013-2014 NRSA QAPP to the support in Task 8.
- c. The contractor shall notify the EPA WAM at any time during the work assignment if changes to the QAPPs are warranted (e.g., due to organizational changes, revised technical approaches).
- d. If the EPA WAM provides technical direction that revisions are determined to be necessary, the contractor shall submit a revised QAPP, including the revision summary, within 10 to 15 work days, depending on the complexity of the changes. When preparing this revised version, the contractor shall ensure that it is written in an active voice and shall include a version history page that summarizes changes made. The contractor shall also provide the revised QAPP in track changes and compare document. The contractor also shall provide EPA with copies of any modified SOPs or checklists. The EPA WAM shall formally accept these for project records by providing a signature page that includes the EPA WAM's and EPA QAO's signatures. EPA shall review the revised QAPP and provide the contractor with written approval or comments. The contractor shall provide a final revised QAPP responding to any EPA comments within 10-15 work days of receiving EPA's comments.

Reporting Requirements:

- a. The contractor shall include a QA/QC section within each major deliverable (as specified above)
- b. The contractor shall provide monthly summaries of QA/QC activities (may be included as part of the progress reports).
- c. The contractor shall provide timely notification of any QA/QC issue and recommend action.

TASK 2 – DELIVERABLES	
Deliverable	Due Date
QAPP Review (verify/recommend)	Within 10 work days after submittal of the contractor's work plan.
Email recommending changes to QAPP	Any time during the WA, if warranted
Revised QAPP for Task 4	Within 10 to 15 days, per technical direction, depending on complexity of revisions
Signed QAPP certification pages for NLA, NWCA, and NRSA (Tasks 6, 7, and 8)	The 5 th work day of the work assignment. Any new assigned personnel who will provide substantial support have 5 work days from start of the assignment.
QA/QC section in all major deliverables	Per schedule for major deliverables
QA/QC progress reports	One per month per task (may be included in progress report)
Email identifying QA/QC issues and recommended action	Timely notification when EPA WAM input is required for proceeding on task.

Task 3: Impingement Data and Analyses

The contractor shall not proceed with this task until the WAM issues technical direction. The contractor shall continue to support EPA in evaluating new data and comments that are relevant to impingement. The contractor will need to differentiate between impingement studies that report (1) impingement rate; and (2) impingement mortality. EPA may decide to set limits for one, both, or a combination of the two. The contractor should also be able to identify where a study is in fact NOT an impingement study, but rather it is a biological characterization or source water study. The contractor shall support EPA in evaluating and revising the proposed impingement limits described in Chapter 11; its appendices in the Technical Development Document

(<http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/upload/technicaldevelopment.pdf>); and adjustment factors described in the NODA. EPA intends to focus on the impingement data for the same technologies considered in the proposal. In supporting EPA, the contractor shall:

- a. Handle any Confidential Work Information (CBI) in accordance with the approved CBI Plan submitted under WA 2-14. (None of the other tasks in this WA will require use of CBI.)
- b. Update the database for impingement, as directed by the EPA WAM, to include new data sources and correct/expand data identified in WA 3-4 (contract EP-C-09-024) by:
 - Applying the data extraction template used in WA 3-4.
 - Updating the Access database from WA 3-4.
- c. Provide timely notification to the EPA WAM of any data and data issues (e.g., data

quality, integrity, and completeness), especially those that need to be resolved before the analyses can proceed.

- d. Provide memoranda describing the following analyses/results and associated QA documentation (this is an iterative process with several versions expected of each memorandum, with purpose and revisions specified by the EPA WAM in written technical direction):
 - i. Revised summary statistics and limitation values.
 - ii. Effects of different data criteria (e.g., relaxing the holding time requirements from 48 hours to none) on the impingement summary statistics and limitation values.
 - iii. Recommendations, implementation, and evaluations of different statistical approaches (e.g., survival analysis, adjustments for other variables) and data assumptions that may produce meaningful benchmarks or limitations for technology performance.
 - iv. Intra-facility variation to the extent that the data support the analyses.
 - v. Recommendations and supporting statistical analyses for responding to the proposal and NODA comments related to statistics, data selection criteria, species sensitivities, adjustment factors, and the impingement data. This support includes an assessment of the extent to which high impingement rates are truly episodic.
 - vi. Additional statistical reviews and analyses to respond to management concerns and newly presented information.
- e. Review EPA's versions of Chapter 11 to:
 - Verify that the information about the analyses and data is correct.
 - Provide suggested language to correct and/or clarify the discussions.
- f. Revise Chapter 11 tables and impingement appendices to match EPA's final data selection and performance parameters (e.g., benchmarks, limitations):
 - i. Tables in Sections 11.1 and 11.2 (i.e., impingement sections).
 - ii. Appendix A's Exhibits A-1 and A-2 (study data should only include impingement data sources)
 - iii. Appendix C's Exhibit C-1 (impingement data)
 - iv. Appendix D (statistics)
 - v. Any additional tables, sections, or appendices resulting from EPA's changes to the proposed to final impingement requirements.
- g. Provide record documents specified by the EPA WAM in written technical direction. The documents will include:
 - vi. An Excel spreadsheet with the final selection of impingement data.
 - vii. Final documentation, confirmation that approved QA procedures were followed, data extraction template, checklists, databases, computer programs that support the discussion in the revised Chapter 11 with flowcharts showing the relationships between each component.
 - viii. Others per technical direction that are revisions of other deliverables provided under the work assignment.
- h. Track and report the technical progress, LOE, and costs separate from the other tasks on this work assignment.

TASK 3 – DELIVERABLES

Deliverable	Due Date
a. Adhere to CBI handling requirements	• Ongoing.
b. Updated database with appropriate meta-data (e.g., version date, variable names)	• Periodically per written technical direction after consultation with contractor on progress of data extraction.
c. Email or memorandum identifying data issues	• At time identified by the contractor
d. Memoranda	• 1-15 work days per technical direction, depending on complexity and urgency. Revisions within 1-10 work days per technical direction depending on extent of revisions and urgency.
e. and f. Memorandum with tables, comments, and suggested revisions	• 1-15 work days per technical direction, depending on complexity and urgency. Revisions within 1-10 work days per technical direction depending on extent of revisions and urgency.
g. Record documents	• At end of period of performance of work assignment. Earlier delivery if specified in written technical direction with a minimum of 5 work days for delivery.
h. Technical progress, LOE and cost reports	• Monthly with progress report.

Task 4. TNSSS Statistical Analyses

The contractor shall not proceed with this task until the WAM issues technical direction. The contractor shall provide the following support related to the TNSSS data:

- a. For the analytes identified by EPA, the contractor shall provide:
 - i. Recommendations for statistically analyzing the data
 - ii. Outputs of the statistical analyses.
- b. The contractor shall revise the April 2009 report to include the analytes identified by EPA. The contractor shall incorporate EPA's comments into a second revision and final version.
- c. If any changes are incorporated into the database, the contractor shall provide a new version of the Excel spreadsheet that corresponds to the data presented in the final report. The final report shall reference the appropriate version of the spreadsheet (e.g., the 2009 version if no changes are necessary).
- d. The contractor shall provide the computer programs and input data files used to produce the results in the final report.
- e. Track and report the technical progress, LOE, and costs separate from the other tasks on this work assignment.

TASK 4 - DELIVERABLES		
Subtask	Deliverable	Due Date

TASK 4 – DELIVERABLES		
Subtask	Deliverable	Due Date
a. Statistical Analysis	Memoranda with Recommendations	Each memorandum due 10 work days after the EPA WAM provides technical direction.
	Draft outputs	One subset 20 work days after EPA identifies analytes for statistical analysis. Second subset 10 work days later. Revisions per technical direction, revisions in 5-10 work days.
b. Report	Draft provided in MicroSoft Word.	15 work days after EPA accepts draft outputs.
	Revised and final provided in both MS Word and pdf formats	Per technical direction, revised version and final version 10-15 work days after the EPA WAM provides comments. Length of time depends on extent of revisions.
c and d. Data and Programs	Updated spreadsheet with appropriate meta-data (e.g., version date, variable names) and computer programs with flowchart documenting relationships between data and programs.	10 work days after EPA accepts the final report.
e. Technical progress, LOE, and cost reports	With progress report.	Monthly

Task 5. NCCA: Conduct Peer Reviews

The contractor shall not proceed with this task until the WAM issues technical direction. The contractor shall conduct two peer reviews, one each for: 5.1) NCCA summary report; and 5.2) Gulf of Mexico Deepwater Horizon Oil Spill chapter. For each peer review, the contractor shall identify and select peer reviewers; conduct the peer review; and organize the reviewers' comments for EPA review.

- a. **Identify Peer Reviewer Pool:** The contractor shall prepare and submit to the EPA WAM the credentials (e.g., curriculum vitae) of seven to eight nationally recognized technical experts who are qualified to independently peer review the draft NCCA reports according to EPA's peer review guidelines. The potential pool of peer reviewers shall include experts outside of EPA with experience in one or more of the following: 1) water resource monitoring and reporting at a national scale; 2) coastal condition assessments using biological, water chemistry or physical habitat indicators; and 3) any other area identified by the EPA WAM in written technical direction. In addition, peer reviewers of the Gulf of Mexico Deepwater Horizon Oil Spill chapter must have experience with surfactants and its dispersal patterns or oil effects on ecosystems. Expertise may be demonstrated by publication in scientific journals or known research professional or

experience. The peer review panel shall not include any experts that directly or indirectly contributed to the analysis used in the report. The EPA WAM will forward names of suggested candidates, but the contractor is not obligated to obtain their services.

The EPA WAM will review and approve the potential pool of peer reviewers based on their credentials and expertise to fulfill the role of peer reviewers of EPA technical documents. The EPA WAM may reject the use of a particular candidate based on qualifications, conflicts of interest, or past direct involvement with the work under review. If the contractor deems necessary, the contractor shall find suitable replacements to bring the pool back to an acceptable number of candidates.

Following the WAM's approval of the peer reviewer pool, the contractor shall select three peer reviewers for each review and determine their availability and ensure that they are free from any conflicts of interest. The contractor shall select reviewers that collectively have the areas of expertise described above. In their agreements with the peer reviewers, the Contractor shall include a confidentiality clause requiring that the peer reviewers shall not release information provided by EPA (i.e., draft report, data), nor the peer reviewers' findings without expressed consent of the EPA WAM. The contractor is responsible for reimbursing the peer reviewers.

- b. **Prepare Charge for Peer Review:** The contractor shall revise the draft letter and charge provided by the EPA WAM. The contractor also shall develop a template for reviewers to use in responding to the questions in the charge. The contractor shall incorporate EPA's comments into revisions.
- c. **Conduct Peer Review:** For each peer review, the contractor shall distribute the draft NCCA reports (and any other documents EPA identifies such as appendices) and the revised charge, questions, and template to Peer Reviewers (approved by the EPA WAM) to each selected peer reviewer. The contractor also shall provide to the peer reviewers any supplemental information requested by the reviewers and deemed necessary by the EPA WAM to complete a thorough review.

Peer reviewers shall conduct their review according to the guidelines detailed in the charge. The contractor shall inform all selected peer reviewers that there shall be no contact with EPA personnel or authors or contributors acknowledged in the draft report. The contractor also shall inform the peer reviewers that the peer reviewers shall not share the findings of the draft summary NCCA report with any other individuals or groups.

The contractor shall coordinate with the peer reviewers and monitor peer reviewers' progress to complete the review within the required time and LOE constraints in the approved workplan. EPA assumes that a single peer reviewer would take at most 40 hours for the summary report and 20 hours for the chapter.

Reviewers shall be allotted a minimum of **4 weeks (i.e., 20 work days)** in which to conduct their review (although the chapter should require only 20 hours to review, still

allow 4 weeks for completion). Peer reviewers shall submit their comments and respond to the specific questions posed in the charge electronically to the contractor.

- d. **Organize Peer Review Comments:** The contractor shall forward to the EPA WAM each peer reviewers' comments in their entirety. The contractor shall provide a second version that organizes the peer review comments by topic.
- e. **Follow-up Questions:** At the EPA WAM's request for clarification, the contractor shall contact the peer reviewer and obtain the needed clarification. The EPA WAM's comments will in no way be technical in nature or question the opinions of the reviewers.
- f. **Track:** Track and report the technical progress, LOE, and costs separate from the other tasks on this work assignment.

Task 5 -- DELIVERABLES	
Deliverable for each peer review	Due Date
a. List of potential reviewers and qualifications	20 work days after receiving technical direction to start
a. Select 3 peer reviewers, and provide them with materials for review	2 work days after receiving comments from EPA WAM
b. Letter, Charge, and Reviewer Template	10 work days after receiving technical direction with draft charge. Per technical direction, revisions within 1 to 5 work days, depending on complexity and urgency.
c. Complete peer review	Per technical direction, a minimum of 20 work days after peer reviewers receive documents for review.
d. Both versions of comments	Four work days after contractor receives comments from the peer reviewer.
e. Follow-up	Per technical direction, requests for follow-up must be made within 2 work days, with a deadline to peer reviewers of 1-5 additional days, depending on complexity and urgency.
f. Technical progress, LOE, and cost reports	Monthly with progress report.

Task 6. NLA: Conduct Sediment Analyses and Provide Document Support

The contractor shall not proceed with this task until the WAM issues technical direction. The contractor shall:

- a. **Review the data** for sediment diatoms and sediment dating and the relevant sections of the background materials identified in Section I "Background." EPA expects that the contractor will include its subject matter experts in the reviews. Consequently, EPA

anticipates the contractor will have questions about the data, analysis objectives, and other aspects relevant to the work in this PWS with relatively few questions related to biological evaluations. At the conclusion of the review, the contractor shall provide a memorandum with questions about the background materials, data, methodology, and other related issues for EPA to address.

- b. **Develop a data analysis plan** for the sediment diatoms and sediment dating data and development of appropriate biological indices. The contractor shall write the plan for a target audience that includes non-statisticians who are subject matter experts. The contractor also shall participate in 2-4 1-hour teleconferences to discuss the draft plan, and must include its subject matter experts if specified in technical direction. For one of the teleconferences, the contractor shall provide draft PowerPoint slides that can be presented to the Steering Committee in approximately 15-20 minutes. (The contractor shall incorporate the EPA WAM's written comments into the deliverables for this subtask.) At a minimum, the draft plan shall describe:
- A. Sediment diatoms/dating data that were collected in the NLA
 - B. Software that will be used for the analysis. The contractor shall use R or Excel for statistical evaluations, but may choose to use other software for any graphical analyses.
 - C. Data quality review and acceptance criteria for the data
 - D. Proposed procedures, including approaches generally used and accepted by subject matter experts. The procedures shall include:
 - Development of a biological indicator and rationale for changing the 2007 approach, if applicable
 - Analysis of 'historic' condition, including replication of the 2007 results and comparison to 2012 results
 - Analysis and interpretation of sediment dating results
 - E. Statistical methods for incorporating sample weights to create population estimates
 - F. Statistical methods for assessing variability in the data, including the use of data from repeat visits and any laboratory QC data
 - G. Rationale for recommending the methods and procedures
 - H. Assumptions for the data (including missing observations) and methodology
 - I. Proposed quality assurance measures that will be incorporated into the analysis
 - J. Recommendations (if any) for research into techniques that were not used to create the findings in the 2007 reports
 - K. Alternative methods, procedures, and assumptions that the contractor considered and reasons for not proposing them in the draft plan.
- c. **Implement the data analysis plan** upon receiving technical direction from the EPA WAM approving the plan. EPA considers analysis plans to be "living" documents subject to change as the contractor performs the analyses. However, before proceeding with any substantial change, the contractor shall consult with the EPA WAM and receive approval in written technical direction. EPA will not require that the contractor revise an already approved draft plan. However, the contractor shall incorporate the EPA WAM's written comments into revised and final versions of the deliverables listed below:

- i. A memorandum that provides and describes the results, their interpretation, and any deviations from the analysis plan. At a minimum, the memorandum shall describe the data, methodology, assumptions, results, quality assurance, conclusions, and recommendations for additional research. The contractor shall rank the recommendations in order of priority to facilitate EPA funding decisions. If specified, the contractor shall reanalyze the data as part of the required revisions to the memorandum.
 - ii. Participation in 2-4 1-hour teleconferences to discuss the results memorandum. The contractor must include its subject matter experts if requested in technical direction.
 - iii. PowerPoint slides that can be presented to the Steering Committee in approximately 15-20 minutes.
 - iv. Chapter for the NLA Technical Appendix (e.g., 2007 NLA Technical Appendix located at http://water.epa.gov/type/lakes/upload/nla_technical_appendix.pdf). The contractor shall provide sufficient details and clarity in the chapter so that the work will be transparent and reproducible to non-subject matter experts. As appropriate, the contractor shall incorporate high quality graphics and stock photographs that are:
 - 1. Formatted in JPEG or TIFF format (300 dots per inch or higher); and
 - 2. Accompanied with captions.
 - v. Supporting materials which shall include data listings, spreadsheets, computer programs, and, if appropriate, flowcharts showing relationships between them. If, for some reason, the task ends earlier than expected (e.g., funds are not made available for incremental funding) or the work was not complete at the end of the period of performance, the contractor shall instead provide the interim versions.
- d. **Prepare the technical appendix** by consolidating all of the data analysis chapters into a single document. The document shall contain the contractor's chapter and others provided by the EPA WAM. The contractor shall incorporate the EPA WAM's written comments into revised versions. For this subtask, the contractor shall provide:
- i. Outline and general formatting guidelines for the data analysts to use in developing their chapters.
 - ii. Editing and graphical support to ensure that the chapters have the following **features**:
 - 1. No typographical and grammatical errors. (The contractor is not expected to edit the document for clarity and adherence to plain language requirements.)
 - 2. Internal consistency within the document. For example:
 - If the graphics indicate that 40% of the lakes are impaired, the text also should use this number.
 - A series of numbers should add to the current total value
 - Chapters have the same formatting (i.e., all chapters look like they are from the same report)
 - 3. Basic organization structures such as Table of Contents, headers/footers, sidebars and "highlights," and references. (It is only necessary that the

formatting style be consistent throughout the document, not the writing style.)

4. High quality graphics and photographs formatted in JPEG or TIFF format (300 dots per inch or higher).

5. Graphics and photographs include captions and photo credits.

- e. **Assess the transparency and reproducibility** for the results in the technical appendix from the data; computer programs and spreadsheets; and details provided in the technical appendix. The contractor shall perform this assessment for all chapters except the one that it provided on sediment analyses. The contractor shall provide:
- An email with its proposed approach, stated in general terms.
 - A memorandum with its findings and recommendations.
- f. **Track** and report the technical progress, LOE, and costs separate from the other tasks on this work assignment.

Task 6 – DELIVERABLES		
Subtask	Deliverable	Due Date
a. Background Review	Memorandum	10 work days after receiving both: 1) the technical direction to start; and 2) the sediment data
b. Data Analysis Plan	Plan	The first draft is due 15 work days after receiving approval of the data analysis plan from the EPA WAM. Revisions are due in 1-5 work days, depending on complexity, as specified in technical direction
	Teleconferences	The EPA WAM will schedule each date and time upon consultation with the contractor.
	PowerPoint file	10 work days after receiving technical direction from the EPA WAM. Revisions (up to 2) are due in 1-3 days, depending on complexity, as specified in technical direction
c. Implementation	Memorandum	The first draft is due 10 work days after receiving approval of the data analysis plan from the EPA WAM. Revisions are due in 1-5 work days, depending on complexity, as specified in technical direction
	Teleconferences	The EPA WAM will schedule each date and time upon consultation with the contractor.
	PowerPoint file	10 work days after receiving technical direction from the EPA WAM. Revisions (up to 2) are due in 1-3 days, depending on complexity, as specified in technical direction
	Chapter	10 work days after receiving technical direction.
	Supporting documentation	June 18, 2014 or 5 work days after receiving technical direction.

Task 6 – DELIVERABLES		
Subtask	Deliverable	Due Date
d. Technical Report	Outline and guidelines	15 work days after receiving technical direction from the EPA WAM. One revision in 1-5 days per technical direction.
	Editing and graphics	15 work days after receiving technical direction from the EPA WAM. One revision in 5-10 days per technical direction.
e. Transparency Assessment	Email with approach	10 work days after receiving technical direction
	Memorandum	10-15 work days after receiving technical direction from the EPA WAM.
f. Tracking	Technical progress, LOE, and cost reports	Monthly with progress report.

Task 7. NWCA: Conduct Algal Data Analyses

The contractor shall not proceed with this task until the WAM issues technical direction. The contractor shall:

- a. **Review the algal data** and the relevant sections of the background materials identified in Section I “Background.” EPA expects that the contractor will include its subject matter experts in the reviews. Consequently, EPA anticipates the contractor will have questions about the data, analysis objectives, and other aspects relevant to the work in this PWS with relatively few questions related to biological evaluations. At the conclusion of the review, the contractor shall provide a memorandum with questions about the background materials, data, methodology, and other related issues for EPA to address. The contractor also shall assess whether it can effectively develop the data analysis plan (i.e., the next deliverable) without access to the reference site data.
- b. **Develop a data analysis plan** for the algal data and development of appropriate biological indices. The contractor shall write the plan for a target audience that includes non-statisticians who are subject matter experts. The contractor also shall participate in 2-4 1-hour teleconferences to discuss the draft plan, and must include its subject matter experts if specified in technical direction. For one of the teleconferences, the contractor shall provide draft PowerPoint slides that can be presented to the Steering Committee in approximately 15-20 minutes. (The contractor shall incorporate the EPA WAM’s written comments into the deliverables for this subtask.) At a minimum, the draft plan shall describe:
 - A. Algal data that were collected in the NWCA
 - B. Software that will be used for the analysis. The contractor shall use R or Excel for statistical evaluations, but may choose to use other software for any graphical analyses.
 - C. Data quality review and acceptance criteria for the data
 - D. Proposed procedures, including approaches generally used and accepted by subject matter experts.

- E. Statistical methods for incorporating sample weights to create population estimates
 - F. Statistical methods for assessing variability in the data, including the use of data from repeat visits and any laboratory QC data
 - G. Rationale for recommending the methods and procedures
 - H. Assumptions for the data (including missing observations) and methodology
 - I. Proposed quality assurance measures that will be incorporated into the analysis
 - J. Recommendations (if any) for research into techniques that might be beneficial for the analyses
 - K. Alternative methods, procedures, and assumptions that the contractor considered and reasons for not proposing them in the draft plan. The contractor shall include its evaluation of the approaches described in the April draft report.
- c. **Implement the data analysis plan** upon receiving technical direction from the EPA WAM approving the plan. EPA considers analysis plans to be "living" documents subject to change as the contractor performs the analyses. However, before proceeding with any substantial change, the contractor shall consult with the EPA WAM and receive approval in written technical direction. EPA will not require that the contractor revise an already approved draft plan. However, the contractor shall incorporate the EPA WAM's written comments into revised and final versions of the deliverables listed below:
- i. A memorandum that provides and describes the results, their interpretation, and any deviations from the analysis plan. At a minimum, the memorandum shall describe the data, methodology, assumptions, results, quality assurance, conclusions, and recommendations for additional research. The contractor shall rank the recommendations in order of priority to facilitate EPA funding decisions. If specified, the contractor shall reanalyze the data as part of the required revisions to the memorandum.
 - ii. Participation in 2-4 1-hour teleconferences to discuss the results memorandum. The contractor must include its subject matter experts if requested in technical direction.
 - iii. PowerPoint slides that can be presented to the Steering Committee in approximately 15-20 minutes.
 - iv. Chapter for the NWCA Technical Appendix (e.g., 2007 NLA Technical Appendix located at http://water.epa.gov/type/lakes/upload/nla_technical_appendix.pdf). The contractor shall provide sufficient details and clarity in the chapter so that the work will be transparent and reproducible to non-subject matter experts. As appropriate, the contractor shall incorporate high quality graphics and stock photographs that are:
 - 1. Formatted in JPEG or TIFF format (300 dots per inch or higher); and
 - 2. Accompanied with captions.
 - v. Supporting materials which shall include data listings, spreadsheets, computer programs, and, if appropriate, flowcharts showing relationships between them. If, for some reason, the task ends earlier than expected (e.g., funds are not made available for incremental funding) or the work was not complete at the end of the period of performance, the contractor shall instead provide the interim versions.

- d. **Track** and report the technical progress, LOE, and costs separate from the other tasks on this work assignment.

Task 7 – DELIVERABLES		
Subtask	Deliverable	Due Date
a. Background Review	Memorandum	15 work days after receiving both: 1) the technical direction to start; and 2) the algal data
b. Data Analysis Plan	Plan	The first draft is due 10 work days after receiving responses to the background review memorandum. Revisions are due in 1-5 work days, depending on complexity, as specified in technical direction
	Teleconferences	The EPA WAM will schedule each date and time upon consultation with the contractor.
	PowerPoint file	10 work days after receiving technical direction from the EPA WAM. Revisions (up to 2) are due in 1-3 days, depending on complexity, as specified in technical direction
c. Implementation	Memorandum	The first draft is due 10 work days after receiving approval of the data analysis plan from the EPA WAM. Revisions are due in 1-5 work days, depending on complexity, as specified in technical direction
	Teleconferences	The EPA WAM will schedule each date and time upon consultation with the contractor.
	PowerPoint file	10 work days after receiving technical direction from the EPA WAM. Revisions (up to 2) are due in 1-3 days, depending on complexity, as specified in technical direction
	Chapter	10 work days after receiving technical direction.
	Supporting documentation	5 work days after receiving technical direction.
d. Tracking	Technical progress, LOE, and cost reports	Monthly with progress report.

Task 8: NRSA: Quality Assurance of Laboratory Analyses and Identifications

The contractor shall not proceed with this task until the WAM issues technical direction. The contractor shall organize, execute, and document independent QA/QC checks of laboratory analyses and identifications for the 2013-2014 NRSA (except for the water chemistry results). The laboratory and QA/QC procedures are described in detail in the NRSA Quality Assurance Project Plan (QAPP) and Laboratory Operations Manual (LOM). The EPA WAM will provide contact information for each laboratory that will be participating in the QA/QC evaluation. For the following indicators, the contractor shall coordinate performance studies; arrange for delivery and return (if appropriate) of samples between laboratories; and assess the results. (Because the contractor is coordinating sample shipments, the workplan shall include costs for shipping.)

- a. **Benthics Macroinvertebrates:** Periodically, the contractor shall provide the independent "gold standard" QC analyses for benthic macroinvertebrates. The contractor's QC taxonomists shall reenumerate and permanently mount the already sorted material for selected samples. After facilitating reconciliation calls, the contractor shall provide short summary reports documenting the conclusions reached by the laboratories during the reconciliation calls. The EPA WAM will provide an example. The contractor also shall provide the QC data using EPA's data template.
- b. **Mercury and Microcystins:** For each indicator, the contractor shall conduct proficiency testing in each survey year (as soon as possible in 2013 and in the spring 2014). The contractor shall provide recommendations to the EPA WAM for appropriate material to be used as QC samples. After the EPA WAM approves the materials, the contractor shall: 1) purchase the QC samples for the laboratories; and 2) draft instructions for the laboratories. After the EPA WAM approves the draft instructions, the contractor shall send the QC samples and instructions to all participating laboratories. After obtaining the laboratory measurements for the QC samples, the contractor shall provide a short report that compares the results; determines interlaboratory variability; assesses patterns in the data (e.g., one laboratory being consistently higher or lower than all others); reaches preliminary conclusions about laboratory performance; and recommends appropriate action.
- c. **Periphyton:** The contractor shall coordinate a round robin review periodically throughout the contract year. The contractor shall arrange for selected samples already analyzed to be sent to a second NRSA laboratory for an independent analysis. In other words, samples will be swapped among laboratories participating in NRSA. EPA has already arranged for payment for the NRSA laboratories to provide the secondary analyses, but the contractor will be responsible for shipping the samples. After facilitating reconciliation calls, the contractor shall provide short summary reports documenting the conclusions reached by the laboratories during the reconciliation calls. The EPA WAM will provide an example.
- d. **Track** and report the technical progress, LOE, and costs separate from the other tasks on this work assignment.

Task 8 – DELIVERABLES	
Deliverable	Due Date
Draft Schedule	15 work days after effective date of the work assignment. Revision in 5 work days. After receiving EPA WAM approval of initial schedule, periodic revisions to show progress.
Instructions for the laboratories (4 sets: benthics, microcystins, mercury, and periphyton)	10 work days after receiving the list of laboratories participating in each evaluation. Revisions are due in 1-2 work days, as specified in technical direction.
Transfer of samples	Per approved schedule.
Materials for reconciliation calls	5 work days prior to each reconciliation call. (No revisions are expected to be necessary.)
Reconciliation Calls (teleconferences)	The EPA WAM will schedule each date and time upon consultation with the contractor. The EPA WAM will provide a toll-free number for use by all participants.

Task 8 – DELIVERABLES	
Deliverable	Due Date
Report	5 work days after completion of the reconciliation calls (benthics and periphyton) or receipt of performance data (mercury and microcystins). Revisions (up to 2) are due in 1-3 days, depending on complexity, as specified in technical direction
Benthics QC Data	10 work days after each reconciliation call.
Technical progress, LOE, and cost reports for task	Monthly with progress report.

III. PERIOD OF PERFORMANCE: This work assignment will start on the date of the contracting officer's signature and extend through **June 22, 2014**.

IV. EPA CONTACTS:

Work Assignment Manager (WAM):

Marla D. Smith
 phone: 202-566-1047
 e-mail: smith.marla@epa.gov

Alternate WAM:

Sarah Lehmann
 phone: 202-566-1379
 email: lehmann.sarah@epa.gov

USPS Address (for WAM):

U.S. EPA (4503T)
 1200 Pennsylvania Avenue, NW
 Washington, DC 20460

Overnight Courier Address (for WAM):

U.S. EPA
 7313C EPA West
 1301 Constitution Avenue, NW
 Washington, DC 20004

File

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 4-05 <input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024	Contract Period 06/23/2009 To 06/22/2014 Base Option Period Number 4	Title of Work Assignment/SF Site Name Technical Support PCB Permits								
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval		Period of Performance From 06/23/2013 To 06/22/2014								
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	OCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 6)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$0.00		LOE: 0						
06/23/2009 To 06/22/2014										
This Action:		\$36,186.00		264						
Total:		\$36,186.00		36,186						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 07/10/2013		Cost/Fee: \$36,186.00		LOE: 264						
Cumulative Approved:		Cost/Fee: \$36,186.00		LOE: 36,186						
Work Assignment Manager Name Amy Hensley <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number 703-305-5084 FAX Number:				
Project Officer Name Cynthia Bowie <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-564-7726 FAX Number:				
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:				
Contracting Official Name Christine Edwards <div style="display: flex; justify-content: space-between;"> <div> (Signature) </div> <div> 8/13/2013 (Date) </div> </div>						Branch/Mail Code: Phone Number: 202-564-2182 FAX Number:				

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 4-05 <input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024	Contract Period 06/23/2009 To 06/22/2014 Base Option Period Number 4	Title of Work Assignment/SF Site Name PCB Permits								
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW Tasks I, II, and III								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 06/23/2013 To 06/22/2014								
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period		Cost/Fee:		LOE:						
06/23/2009 To 06/22/2014										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor W/P Dated				Cost/Fee:				LOE:		
Cumulative Approved:				Cost/Fee:				LOE:		
Work Assignment Manager Name Amy Hensley <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>								Branch/Mail Code: Phone Number: 703-305-5084 FAX Number:		
Project Officer Name Cynthia Bowie <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>								Branch/Mail Code: Phone Number: 202-564-7726 FAX Number:		
Other Agency Official Name <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>								Branch/Mail Code: Phone Number: FAX Number:		
Contracting Official Name Christine Edwards <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> (Signature) </div> <div>6/19/2013 (Date)</div> </div>								Branch/Mail Code: Phone Number: 202-564-2182 FAX Number:		

STATEMENT OF WORK

Contract Number: EP-W-09-024, Option 4

Work Assignment: 4-05

Title: Performance Based Work Assignment -Technical Support for PCB Permits and Document Development

This work assignment amendment is a continuation of work begun under work assignment 3-05 of this contract. No work shall be duplicated.

Background:

The Toxic Substance Control Act (TSCA) of 1976 requires EPA to develop rules to regulate the manufacture, processing, distribution in commerce, use, or disposal of chemical substances. Section 6(e) of the Act specifically names polychlorinated biphenyls (PCBs), requiring rules to specify methods for the disposal of PCBs.

Regulations promulgated in Subpart D of 40 CFR 761 authorize EPA to issue PCB disposal approvals, valid nationwide, to mobile disposal facilities and fixed facilities as well as issue PCB alternative decontamination approvals. TSCA regulations delegate signatory authority to the Assistant Administrator of the Office of Solid Waste and Emergency Response (OSWER) for permits issued by EPA. In FY 2008, EPA transferred the administration and implementation of the Toxic Substances Control Act's (TSCA) Polychlorinated Biphenyl (PCB) Cleanup and Disposal Program from the Office of Prevention, Pesticides and Toxic Substances (OPPTS) to the Office of Solid Waste and Emergency Response (OSWER).

Individuals seeking approvals to dispose of PCBs or decontaminate PCB-contaminated materials must submit a permit application and a demonstration plan for EPA review. EPA reviews the permit application for completeness. The application must include the demonstration plan indicating a demonstration can be performed safely with a good probability of success. Once the application review is complete, EPA will require the company to demonstrate the operation of its technology under reasonable worst case operating conditions. EPA will issue an approval to operate the alternative disposal or decontamination technology once the company has demonstrated their PCB disposal or decontamination process is effective, the technology is capable of processing PCB material without frequent breakdowns, and does not present unreasonable risks to health and the environment.

Typically, PCB disposal technologies are classed into three categories, (a) incineration, (b) thermal alternative technology, and (c) non-thermal alternative technology. Alternative technologies include surface and aqueous media decontamination processes. The alternative disposal technology must be demonstrated in the presence of EPA evaluators. During the demonstration, EPA will collect samples of materials before and

after treatment to confirm the PCBs were destroyed. Upon confirmation of PCB destruction, EPA will issue an approval for the technology.

I. Purpose:

Any person wishing to dispose of PCBs must use approved methods and must obtain an approval. Several methods for disposal and decontamination are listed in §761, but alternative technologies for disposal and decontamination may be used if an approval is granted by the EPA. Persons can apply to the EPA for approval of PCB disposal by non-thermal alternative methods (§761.60(e)), alternative decontamination procedures (§761.79(h)), thermal alternative methods (§761.60(e)), and incineration (§761.70). EPA must confirm the PCB Disposal and decontamination technologies demonstrated by permit applicants comply with EPA requirements. To accomplish this, EPA will require contractor support.

At the direction of the Work Assignment Manager (WAM), the contractor shall prepare and ship sampling kits to sites designated by the WAM. EPA will collect samples during the PCB Disposal or Decontamination Demonstration, pack the samples, and send the samples to the contractor. The contractor shall analyze samples collected by EPA to confirm the technologies destroy and/or remove PCBs from various waste feed matrices or materials. The contractor shall prepare QA samples in a variety of matrices for EPA to evaluate the laboratory facilities to be used by the applicant during commercial PCB Disposal or Decontamination operation or during the PCB Disposal or Decontamination demonstration. The contractor shall transmit preliminary analytical results of the demonstration samples to EPA. These preliminary results will assist EPA in determining the efficacy of the new disposal or decontamination technologies.

The contractor shall develop a document that will help persons apply for approvals for alternative technologies under §761. The document will discuss requirements for approval applications, demonstration test plans, demonstration test reports, as well as describe the approval process and how to conduct a demonstration. Other elements may be requested by the WAM.

The contractor shall also develop other documents that will provide information to the regulated community on how to cleanup and dispose of PCBs in compliance with the PCB Regulations (§761). These documents will help persons apply for disposal and cleanup PCB approvals from the EPA.

II. Scope of Work:

A. PCB Disposal and Decontamination Demonstrations. There are approximately five possible demonstrations covered under this work assignment. Generally, EPA collects a set of samples for starting material or feed, samples of treated material and samples of process waste. At times, in addition to the standard samples for feed, process streams, and process waste, questionable process or waste streams may be sampled to clarify regulatory status of the material. Also, blind QA audit samples may, at

the direction of the WAM, be shipped to the laboratory selected to perform the permit applicant's product analysis during commercial operations. For the different types of demonstrations, the estimated number of samples and type of samples to be collected by EPA for analysis are listed below. Possibility exists that one of the demonstrations may involve sampling and analysis of low radioactive material.

1 – Alternative Thermal technology approval. Feed and treated material may contain low radioactive substances.

Samples: Liquid or non-liquid feed (3), treated material (3), water discharge (3), QA samples (3).

2 – Alternative Non-thermal technology approval. Feed and treated material may contain low radioactive substances.

Samples: Liquid or non-liquid feed material (3), treated material (3), water discharge (3), QA samples (3).

3 – Alternative decontamination approval.

Samples: Wipe samples before treatment (3), wipe samples after treatment (3), QA samples (3), water discharge (3).

B. Documents on PCB Cleanup and Disposal – Any person wishing to dispose of PCBs must use approved methods and must obtain an approval. The person must first submit an application package to their EPA Regional Office or to EPA Headquarters, depending on the signing authority for their approval. For disposal approvals, demonstrations are often required, which involve submission of test plans and test results to the EPA. This work assignment amendment covers the development of documents that describe the components of and level of detail needed for PCB disposal or cleanup approvals.

B. Work Tasks

Task 1. Task Management

The contractor shall prepare and submit a work plan. Work under this task shall include participating in conference calls, meetings, preparing the monthly progress report and other task management. This work assignment does not require a QA/QC plan as one has already been provided as part of the original assignment. This statement of work also requires the use of TSCA CBI.

NOTE: The tasks below represent all of the possible items that may be required by EPA to support the PCB cleanup and disposal program. Written technical direction will be provided by the WAM which will specify the items and quantities needed for each permit.

Task 2. Sample Collection and Analysis

A. EPA will observe on-site the PCB Disposal or Decontamination Demonstrations and will collect samples and transfer the samples to the contractor. The contractor shall analyze the samples appropriately, as outlined below.

- (1) For analysis of polychlorinated biphenyls (PCBs), the contractor shall analyze samples for classes of PCB compounds named Aroclor. These compounds include but are not limited to the following:

Aroclor 1242	Aroclor 1264
Aroclor 1254	Aroclor 1016
Aroclor 1260	

- (2) For analysis of PCBs, the contractor shall provide analytical instrument capability and methodologies to analyze and to identify the 209 congeners of polychlorinated biphenyls.
- (3) For analysis of PCBs, the contractor shall provide analytical instrument capability and methodologies to analyze and to identify PCBs, separating and quantitating the identified PCBs in homologs from mono- to deca-chlorinated biphenyls. The analytical standard to be used shall be the Dry Color Manufacturer Association (DCMA) standard or equivalent.
- (4) The contractor shall transmit analytical results of the demonstration samples to EPA in three stages. First, the raw data will be submitted by telephone or email as directed by the WAM. These results will assist EPA in determining the efficacy of the new disposal or decontamination technologies. Second, the contractor shall prepare a draft digital report. Third, after receiving comments from the WAM, the contractor shall then prepare the final analytical results which incorporate the WAM's comments.
- (5) The contractor shall analyze for other pollutants of interest as directed by the WAM. For example, PCBs in the U.S. is in short supply. The possibility exists that surrogates for PCBs may necessarily be used during PCB Disposal or Decontamination Demonstration. Should surrogates be used, the contractor shall analyze samples for the surrogates. An example of a surrogate is trichlorobenzene.

B. Sample Media. The contractor shall implement analytical methods suitable to the medium of interest. Examples of media include crankcase oil; mineral oil; solvents such as ethylene glycol; soils such as clay, sediment or sand; fly ash; and clinkers.

C. Sampling Kit.

- (1) The contractor shall provide sampling kits (described below) for each demonstration suitable for the collection of samples of various media, but not limited to bulk solids such as soil; and bulk liquids such as fuel oil, solvents and water.
 - (2) The contractor shall provide a sampling kit suitable for the collection and analysis of samples from porous surfaces (concrete, paint) and non-porous surfaces (metal).
- D. For thermal technologies including incineration, the contractor may be requested by the WAM to observe the collection of samples from various process streams and obtain split samples for analysis by the contractor.
- E. The contractor may be requested to provide personnel with appropriate experience and appropriate certificates to take the samples for any of the technologies and any of the media.
- F. The contractor shall submit a preliminary analysis to the WAM for review and comment. Upon receipt of the comments the contractor shall incorporate the comments into the final report.

Task 3. PCB Disposal and Decontamination Demonstration Requiring Review of Sampling Protocols

- A. For thermal technologies including incineration, the contractor may be requested by the WAM to review the applicant's demonstration trial burn plan, to determine/plan the work schedule. Contractor should already be familiar with the process and equipment, from previous work with identical incinerator equipment.
- B. For thermal technologies including incineration, the contractor may be requested to determine if the applicants' stack emission sampling protocols to be used during the trial burn comply with EPA standards.

Task 4. Sampling Kit for PCB Disposal and Decontamination Demonstrations

The contractor shall provide, at the direction of the WAM, a sampling kit for EPA PCB Disposal or Decontamination technology evaluators. Sampling items are to be shipped in a cooler ranging in size from one (1) gallon to ten (10) gallons, as appropriate. Packing material must be provided and used as appropriate to minimize breakage of items.

At minimum, the following items shall be provided in the shipping cooler:

- A. Traceability Log Forms (3 sheets minimum)

- B. Quadruplicated bar codes in self-adhering format (3 sheets - 15 codes minimum per sheet). Traceability forms must accommodate bar codes and sample description.
- C. Labels for sample containers to identify samples.
- D. Disposable gloves (12 pairs minimum)
- E. Wide mouth 100 ml. sampling jars, or 40 ml. vials "VOC" sampling type, or a mixture of jars and vials as specified by WAM.
- F. Spatulas, two medium size, metal
- G. One fine tip marker, waterproof
- H. Two writing pens, ball point or fine felt tip
- I. "Blue ice" or chemical ice pack for sample preservation
- J. Evidence tape, 2 feet in length
- K. Shipping bill or air bill prepared for shipping samples to Contractor on overnight basis
- L. "Zip locking" plastic bag to protect documents
- M. Extra sampling containers in case of breakage or process anomaly
- N. Paper towels, e.g. "Kimwipes"

Blind QA audit samples shall be prepared to evaluate laboratory(s) designated by applicants to analyze samples for the demonstration or for commercial operations. The audit sample(s) may be prepared using various media such as sand, oil or water. Optional items below, which are required at times, specified by the WAM, for specific projects.

- O. One-liter jars for aqueous samples, quantity to be specified.
- P. Wipe Sampling Kit:
 - (1) Folded cotton gauze pad (e.g. 4"x4"), inserted in 100 ml wide mouth jar
 - (2) Gauze pad saturated with solvent (e.g. hexane)
 - (3) Template for wiping 100 centimeter square area or as specified
 - (4) Template disposal or reusable, as specified
 - (5) Quantity to be specified by WAM
 - (6) Solvent to be specified by WAM
- Q. Spoon or other instruments for sampling

III. Deliverables:

Task 1. Within 15 days of issuance of the work assignment amendment, the contractor shall submit a Work Plan for review and acceptance.

Task 2. Results. Within two weeks of receipt of samples unless otherwise approved by the WAM, contractor shall submit raw data of the sample chemical analysis. These raw data shall be transmitted in the form of a phone call or email as directed by the WAM. Within three weeks of the receipt of the samples the contractor shall provide a draft digital report of the chemical analysis. When the EPA provides comments on the draft digital report the contractor shall produce a final report within 30 days of the receipt of the EPA's comments. The final report shall be in pdf or other format (.doc) as specified by the WAM.

Task 3. Within 20 days of receipt of a copy of the permit applicant demonstration plan, the contractor will review and submit a summary report of the demonstration plan.

Task 4. Within 7 days of request by the WAM, the contractor will ship a sampling kit to the demonstration site for use by EPA or its representative.

A Work Plan is required.

EPA will approve the work plan within 30 days.

CBI does apply.

This work assignment amendment relates to Tasks I, II, and III of the current Statement of Work (SOW) of the contract.

The contractor's performance shall be judged by 1) timeliness in meeting the four week deadline for submission and 2) completeness by including all the required QAP elements. See section on Performance Measures below.

Performance Measures:

The government shall review the promptness of submitting the Field Study QAP as required in this WA. If the contractor is late by more than 14 calendar days, from the due date specified in the WA, on the QAP, the government shall take a 10% reduction in the fee associated with the QAP. The reduction shall be applied to all fees, both the paid fee and unpaid fee.

The government shall review the completeness of the QAP as required in this WA. If the contractor's QAP is missing one or more of the required elements, as listed in the WA, the government shall take a 10% reduction in the fee associated with this WA. The reduction will be applied to all fees, both the paid fee and the unpaid fee.

The government shall review the results of the physical testing as required in the Tasks of this WA. If the contractor has failed to perform the physical testing in accordance with the latest approved QAP for that element, the government shall take a 30% reduction in the fee associated with that work. The reduction will be applied to all fees, both the paid fee and the unpaid fee.

IV. Period of Performance:

This work assignment will start on ^{June 23, 2013} ~~the date of the contracting officer's signature~~ and extend through June 22, 2014.

V. Level of Effort:

This work assignment amendment shall require 268 hrs professional hours.

VI. EPA Contact:

Work Assignment Manager:

Amy Hensley
Mail Code 5303P
1200 Pennsylvania Ave NW
Washington, DC 20460
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Alternate Work Assignment Manager:

Gail Hansen
Mail Code 5303P
1200 Pennsylvania Ave NW
Washington, DC 20460
Phone: (703)308-0463
Fax: (703)308-7904

Courier Service Address:
Potomac Yard North
2733 S. Crystal Drive
Room N-6832
Arlington, VA 22202

File

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 4-06	
		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:	
Contract Number EP-W-09-024		Contract Period 06/23/2009 To 06/22/2014 Title of Work Assignment/SF Site Name Local Lead Data	
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW	
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval		Period of Performance From 06/27/2013 To 06/22/2014	
Comments:			
<input type="checkbox"/> Superfund		Accounting and Appropriations Data	
		<input checked="" type="checkbox"/> Non-Superfund	
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.			
SFO (Max 2) <input type="checkbox"/>			
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)
			Budget Org/Code (Max 7)
			Program Element (Max 9)
			Object Class (Max 4)
			Amount (Dollars)
			(Cents)
			Site/Project (Max 8)
			Cost Org/Code (Max 7)
1			
2			
3			
4			
5			
Authorized Work Assignment Ceiling			
Contract Period: 06/23/2009 To 06/22/2014		Cost/Fee: \$0.00 LOE: 0	
This Action:		\$142,888.00 924	
Total:		\$142,888.00 924	
Work Plan / Cost Estimate Approvals			
Contractor WP Dated: 07/23/2013		Cost/Fee: \$142,888.00 LOE: 924	
Cumulative Approved:		Cost/Fee: \$142,888.00 LOE: 924	
Work Assignment Manager Name Brad Schultz		Branch/Mail Code:	
_____ (Signature) (Date)		Phone Number 919-541-3881	
		FAX Number:	
Project Officer Name Cynthia Bowie		Branch/Mail Code:	
_____ (Signature) (Date)		Phone Number: 202-564-7726	
		FAX Number:	
Other Agency Official Name		Branch/Mail Code:	
_____ (Signature) (Date)		Phone Number:	
		FAX Number:	
Contracting Official Name Christine Edwards		Branch/Mail Code:	
_____ (Signature) (Date)		Phone Number: 202-564-2182	
		FAX Number:	

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

4-06

☐ Other ☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2014

Base

Option Period Number 4

Title of Work Assignment/SF Site Name

See comments.

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 06/27/2013 To 06/22/2014

Comments:

Title: Supplementing Local Lead Data: Supporting Community-Level Assessments Through Fine-Scale Modeling. SHC Task 2.2.1.4. New Work Assignment. The effective date of the work assignment will be the date of issuance by the Contracting Officer. WACOR (WAM): Brad Schultz. [This is a continuation of work begun under work assignment 3-06 of the contract. No work shall be duplicated.]



Superfund

Accounting and Appropriations Data



Non-Superfund

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

SFO

(Max 2)



Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

06/23/2009 To 06/22/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Brad Schultz

Branch/Mail Code:

Phone Number 919-541-3881

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

Contract EP-W-09-024

WA 4-06 Statement of Work: Supplementing local lead data: supporting community-level assessments through fine-scale modeling

"This is a continuation of work begun under work assignment 3-06 of this contract. No work shall be duplicated."

Level of effort: 854 hours

Background: Some cities or counties undertake extensive blood-lead screening which, among other things, allows for a characterization of childhood lead exposure in their communities. Such screening, however, is not universally conducted, and most communities are left without an understanding of their local childhood lead exposure. Many community groups, such as a number of grantees in the EPA Community Action for a Renewed Environment (CARE; www.epa.gov/care) program and in environmental justice efforts, are interested in knowing their community's lead exposure and its impact. In addition to providing lead exposure information to communities, it is anticipated that the results could provide information for identifying communities at risk, for assistance in targeting enforcement, and related efforts. This work assignment is intended to assist in supplementing modeling work being conducted in-house in EPA's Office of Research and Development, National Exposure Research Laboratory (NERL).

EPA/ORD is conducting research to estimate blood-lead levels at the individual and census tract level nationally from NHANES data and other data sources. The intent is to provide a fairly rough estimate where only limited blood-lead screening data is available for communities, and the Regions they serve (so they can consider childhood lead exposure along with other issues in risk prioritization efforts in the CARE program) and for other uses. A general description of these efforts may be found at epa.gov/heasd/communities and www.epa.gov/heasd/c-ferst, including the journal articles referenced there, especially VG Zartarian, BD Schultz, TM Barzyk, M Smuts, DM Hammond, AM Geller (2011), "The EPA's Community-Focused Exposure and Risk Screening Tool (C-FERST) and Its Potential Use for Environmental Justice Efforts," *American Journal of Public Health* and Zartarian V., and Schultz B. (2010), "The EPA's Human Exposure Research Program for Assessing Cumulative Risk in Communities," *Journal of Exposure Science and Environmental Epidemiology* 20(4): 351-358. C-FERST is growing in visibility and demand, and supports the Administrator's priorities, including (1) Cleaning up our communities, (2) Expanding the conversation on environmentalism and working for environmental justice, and (3) Building strong state and tribal partnerships. C-FERST is part of the White House Open Government Initiative, will be undergoing external peer review in Fall 2013, and will be made publicly available without password to the public on or before September 2014. The C-FERST team is awaiting the lead GIS layers with geometric mean blood-lead level (BLL) estimate for each census tract in the US and an estimate of the 95th percentile BLL in the population of each census tract in the US no later than August 15, 2013. This specific work assignment is intended to parallel such efforts as those of the National-scale Air Toxics Assessment (epa.gov/nata) for air toxics, radon and environmental tobacco smoke (ETS), for

example, with initial work on ETS described in Chahine T, Schultz B, Zartarian V, Subramanian S V, Spengler JD, Hammitt JK, Levy JI, "Modeling geographic and demographic variability in residential concentrations of environmental tobacco smoke using national datasets," *Journal of Exposure Science and Environmental Epidemiology* (2011).

It is critical that modeling products be evaluated with real-world measurements data, which this proposed effort does. Model evaluation is a central scientific goal of C-FERST (epa.gov/heads/c-ferst). Testing modeling results with childhood lead exposure measurements data is valuable given the extensive Regional and community interest and the remaining health burden from lead, especially in high-risk communities, and which has not been well-defined to date. EPA Regions are also interested in targeting resources and enforcement activities in high risk areas, as defined by environmental exposure indicators which have relevance to health effects; these indicators (that is, the modeled lead exposure estimates) will be more valuable if evaluated against local data. Additionally, in a few locations there is local blood-lead data, and some of these locations appear to be high risk areas. It will be beneficial to have an integrated approach which can utilize both nationally-modeled estimates and local data rather than a piecemeal approach. Finally, the EPA's new screening tool to determine which areas will be targeted for environmental justice activities (EJSCREEN) has recently decided to use the census block group level as its unit of analysis. Thus, previous work at the census tract level needs to be modified to predict at the census tract level and compare a variety of potential predictors with actual blood-lead measurements.

Statement of work: The contractor shall complete modeled estimates of childhood lead exposure at the census tract level and then the census block group level. Census tract and census block group level estimates will be in the form of a census tract/block group geometric mean (in micrograms/dL) and that model-based distributions of lead exposures will be calculated; Geographic Information System (GIS) layers at the census tract level will include geometric mean, 95th percentile estimates in each census tract, 97.5th percentile in each census tract, 90% confidence intervals for the geometric mean, and 90% confidence intervals for the 95th percentile in each census tract. (Later in this work assignment, each of those "layers" will be prepared at the census block group level as well.)

In addition to model comparison, the contractor shall implement an updating, or fusing, of the national model with local measurement data. The model needs to be simple enough for application in other communities by EPA Regional Offices, and local health departments of a mid-size or larger city or county (i.e., population of greater than 200,000). The contractor shall implement this "updating" at the community, or collection of census block groups, as well as the individual level. The contractor should be aware that updating is being performed for several environmental stressors.

The work shall be broken into four tasks.

| Task One

The first task is to produce the contractor workplan and update the quality assurance plan for this project (Level III).

| Task Two

The second task is to complete predictive modeling to estimate geometric mean BLL for each US census tract, 95th percentile estimates in each census tract, 97.5th percentile in each census tract, 90% confidence intervals for the geometric mean, and 90% confidence intervals for the 95th percentile in each census tract, using only publicly available data but not blood-lead data as the blood-lead data is not universally available. The predictions shall be evaluated using blood-lead data from the states of MA, MI, TX, and OH. Using census, NATA, and other predictive information available at a national scale, the model should be run across the country and compared with the NHANES public use data. If necessary, the model will be recalibrated to a national scale. GIS layers shall be prepared for these results according to US EPA geodata standards, suitable for posting to the US EPA internet site, and including GIS metadata. The Methods section for a paper shall be reviewed and a Results section for a paper shall be prepared, including tables and figures, to document the findings, and suitable for publication in a peer-reviewed scientific journal such as *Environmental Health Perspectives*. The work shall also be refined in order to provide similar estimates at the census block group level, with the analogous GIS layers.

| Task Three

The third task is to complete an algorithm on results on (1) updating screening-level, census block group estimates with local data and (2) completing the extension of the model to the individual level, including age, year, and seasonal trends. The first algorithm refers to a model which combines the screening-level model with locally-collected data to provide distributions of estimated blood-lead levels at the census tract level and should allow for the combination to occur at the census block group level. The resolution of the updating, census-block group model shall be at least in 1 microgram/dL increments and shall continue to include considerations of seasonal trends and age (cf., for example, *Seasonal Trends in Blood Lead Levels in Milwaukee* (1996), EPA Report Number 747-R-95-010 and "Estimated Change in Blood Lead Concentration in Control Populations," Niemuth NA, Wood BJ, Schultz BD, *Archives of Environmental Health* (2001) Vol 56 (6): 542-551). Although this model should be statistically sound, such as using Bayesian principles, it is important that it be implementable by EPA Regional offices and large to mid-size local health departments as well through a tool such as C-FERST. An user-friendly interface is not needed as that interface will occur through other tools, but the implementation needs to be fast in a web-based tool and should be written in R, unless approved in advance by the Work Assignment Manager (WAM). The second algorithm extends the model to the individual level, suitable for use in epidemiologic studies such as the National Children's Study. For the second algorithm, ease of implementation is less of a consideration,

but the data is likely to be limited to only two measurements during early childhood. Demonstration of the proof of concept of this second result shall be suitable for inclusion in a publication in a peer-reviewed scientific journal, as for algorithm (1).

Task Four

The fourth task is to provide an update of census tract levels of another environmental pollutant for inclusion in C-FERST using the principles of task two of this work assignment or other Bayesian principles. Algorithms to calculate the census tract level estimates will be provided by the WAM and the estimates will be statistically shrunk to more reliable national, state or county-level data. The WAM will provide any of the references to the contractor and will obtain contractor employee access for those requested to perform work under this work assignment to the Community-Focused Exposure and Risk Screening Tool (C-FERST). Description of C-FERST can be found at: www.epa.gov/head/c-ferst. The (password-protected) link on the Internet is at: <https://cfpub.epa.gov/CFERST>.

A Work Plan is required.

CBI does not apply.

A QAQC plan is not required.

The work relates to Task I Collection and Analysis of Data of the current Statement of Work.

Deliverables:

Task One:

- a) The contractor work plan per the requirements of the contract.

Task Two:

- a) Publication-quality tables, figures, and supporting documentation to enable reproduction of results for the analysis of data at the census block group level. The analysis should be sufficient to support an article in a peer-reviewed scientific journal. Contractor staff will be eligible for co-authorship in accordance with journal guidelines. Due August 1, 2013.
- b) A database file of the estimated geometric mean BLL for each US census tract, 95th percentile estimates in each census tract, 97.5th percentile in each census tract, 90% confidence intervals for the geometric mean, and 90% confidence intervals for the 95th percentile in each census tract for placement in the EPA Geoplatform and use by C-FERST. A metadata file corresponding to this file which meets EPA metadata and Geoplatform standards. Due August 31, 2013.
- c) A database of the blood-lead levels for each state used, without personal identifiers. The database should include the block group of each measurement, the blood-lead concentration (at least to the nearest 1 ug/dL), the month and year sampled, and the age of the child to the nearest month. Due October 30, 2013.

- d) A file with census block group estimates across at least the contiguous 48 states, including the variables listed in Task Two, deliverable (b), above, including a metadata file meeting EPA standards. Due February 1, 2014.
- e) A database file of county-level uncertainty estimates for the estimates corresponding to the estimates under Task Two, deliverable (d). (The estimates in (d) are for the census block group level; the deliverable (e) with upscale these estimates to the county level in order to maintain consistency with other toxic substances in C-FERST.) Due March 1, 2014.

Task Three:

- a) A working algorithm to update (fuse) locally-collected data, such as those collected by a local health department, with the screening-level model estimates; the purpose is to allow a user to improve the predictive power of the screening-level estimates where local data exist. The algorithm shall include documentation to allow for EPA Regional and other staff to operate the model, which will be incorporated into C-FERST. Unless approved in advance by the WAM, the code shall be written in the R language. The model shall also be described in an article suitable for publication in a peer-reviewed scientific journal; the contractor shall write the results section for that article in the format of *Environmental Science and Technology* or a similar journal and the R code will be included in an Appendix. Due March 15, 2014.
- b) A second algorithm to estimate BLLs at to the individual level, suitable for use in epidemiologic studies such as the National Children's Study. For the second algorithm, ease of implementation is less of a consideration, but the data is likely to be limited to only two measurements during early childhood. Demonstration of the proof of concept of this second result shall be suitable for inclusion in a publication in a peer-reviewed scientific journal and the contractor shall write the methods and results sections and submit to a peer-reviewed scientific journal. Draft due April 15, 2014. Final version due June 22, 2014.

Task Four:

- A database and figures showing the findings. The database shall provide estimates of the arithmetic mean for each census tract as well as the 90% prediction interval around that arithmetic mean in a GIS file, including standard EPA GIS metadata as in Task Two of this WA. Due November 15, 2013. The figures and estimates shall be updated up to two times due to internal EPA reviews and up to one additional time due to external peer review; due thirty (30) days after receipt of comments.

The work shall begin when signed by the contracting officer and end on June 22, 2014.

Contacts:

Work Assignment Manager

Brad Schultz

109 T.W. Alexander Drive (Mail Drop E205-02)

Research Triangle Park, NC 27711

Schultz.Brad@EPA.GOV

(919)541-3881

File

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 4-08			
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:			
Contract Number EP-W-09-024			Contract Period 06/23/2009 To 06/22/2014 Base Option Period Number 4			Title of Work Assignment/SF Site Name Nat'l Listing Fish Advisories			
Contractor BATTELLE MEMORIAL INSTITUTE				Specify Section and paragraph of Contract SOW					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval						Period of Performance From 06/23/2013 To 06/22/2014			
Comments: The work plan is approved as submitted but with a current cost ceiling of \$26,000. This ceiling is not to be exceeded until technical direction is received from the WAM.									
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund									
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations data use EPA Form 1900-69A.									
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars) (Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1									
2									
3									
4									
5									
Authorized Work Assignment Ceiling									
Contract Period:		Cost/Fee:		\$0.00		LOE:		0	
06/23/2009 To 06/22/2014									
This Action:				\$31,688.00				231	
Total:				\$31,688.00				231	
Work Plan / Cost Estimate Approvals									
Contractor WP Dated:		07/31/2013		Cost/Fee:		\$31,688.00		LOE: 231	
Cumulative Approved:				Cost/Fee:		\$31,688.00		LOE: 231	
Work Assignment Manager Name Samantha Fontenelle						Branch/Mail Code:			
						Phone Number 202-566-2083			
						FAX Number:			
(Signature) _____ (Date) _____									
Project Officer Name Cynthia Bowie						Branch/Mail Code:			
						Phone Number: 202-564-7726			
						FAX Number:			
(Signature) _____ (Date) _____									
Other Agency Official Name						Branch/Mail Code:			
						Phone Number:			
						FAX Number:			
(Signature) _____ (Date) _____									
Contracting Official Name Christine Edwards						Branch/Mail Code:			
<i>Christine Edwards</i>						Phone Number: 202-564-2182			
(Signature) _____ (Date) 9/10/13						FAX Number:			

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

4-08

☐ Other ☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2014

Base

Option Period Number 4

Title of Work Assignment/SF Site Name

National Listing of Fish Advis

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

1, 2, 3

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 06/23/2013 To 06/22/2014

Comments:

Carryover Work Assignment - Work Plan and Cost Estimate ar required.



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

06/23/2009 To 06/22/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Samantha Fontenelle

Branch/Mail Code:

Phone Number 202-566-2083

FAX Number:

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number: 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number: 202-564-2182

FAX Number:

(Signature)

(Date)

PERFORMANCE WORK STATEMENT

Contract EP-W-09-024

Work Assignment No.: 4-08

Title: National Listing of Fish Advisories (NLFA)

Purpose: The purpose of this Work Assignment (WA) is to complete the tasks below that were initiated but not completed under WA 3-08 for the NLFA program.

I. BACKGROUND

In November of 1988, EPA provided funding to the American Fisheries Society (AFS) to conduct a national survey on State Advisory Programs. State responses were published in the report *Results of the 1989 Census of the State Fish/Shellfish Advisory Programs*. The study showed that States use a variety of methods to determine the risk of consuming contaminated fish. In addition to describing their advisory programs, states were requested to identify areas in which the federal government could assist in this process. One of the key areas identified was the transfer of fish advisory related information between the State and federal agencies. States recommended the establishment of a clearinghouse to improve the transfer of information.

In response to the states' recommendation, the Office of Science and Technology (OST) developed the Fish Advisory Bulletin Board System (BBS). The BBS contained a searchable database that listed each state's fish advisories, provided state contact names, and other information related to specific advisories. In 1994, OST modified the fish consumption advisory database to incorporate a mapping component operating within a PC-based Windows environment. The new program and database are called The National Listing of Fish Advisories (NLFA). In 1995, 1996, and 1997, OST further modified the database to include wildlife under advisory as well as lake acres and river miles under advisory, trends data, Canadian advisories, tissue monitoring data, and risk communication methods. In 1998, EPA made the NLFA publically available for use on the EPA website. In addition to maintaining and updating the NLFA, EPA conducts an annual survey of states and tribes designed to characterize advisory programs. In the past, EPA collected information from states and tribes for the NLFA and the Annual Report on Advisory Programs under the 305(B) Information Collection Request (ICR). In November 2011, EPA received approved from the Office of Management and Budget to conduct information collection regarding state and tribal fish advisory programs under ICR #2040-0226.

II. SCOPE OF WORK

This WA is a carryover WA to complete the following tasks initiated but not completed under WA 3-08. The funding to support this WA is also carryover from the original WA. A work plan and Quality Assurance Project Plan are required for this work assignment.

Confidential Business Information (CBI) does not apply to this work assignment. This work assignment relates to Tasks I, II, and III – Collection of Data, Data Analysis and Technical Program Support – General Support, respectively and the scope of work for WA 3-08. The contractor shall perform the following tasks:

Task 1 – Work Plan and Monthly Progress Reports

The contractor shall prepare a work plan and cost estimate (by task) for this work assignment, including proposed level of effort, budget, and a schedule of deliverables and submit it to the Contracting Officer (CO), Project Officer (PO), and Work Assignment Manager (WAM) in accordance with contract requirements. The work plan shall be submitted electronically in MS WORD.

The contractor shall provide monthly progress reports to include a breakdown by task of the hours expended in the reporting period and description of work progress to date.

Task 2 - Develop a Quality Assurance Project Plan (QAPP)

The contractor shall finalize the Quality Assurance Project Plan (QAPP) approved by the Contractor's QA/QC officer and the EPA/OST QA/QC under WA 3-08. The contractor shall ensure and document that all activities related to updating and/or modifying the NLFA are in accordance with Agency guidance and in compliance with EPA metadata standards. The QAPP shall address project objectives, organization, responsibilities, secondary data sources, and procedures to be used in assuring the quality of data reporting, data reduction and data validation in data transcription. The contractor shall provide all SOPs used for verifying accuracy of transcription of data. EPA's guidance on developing QAPPs can be found at www.epa.gov/quality.

All deliverables shall include a report describing compliance with the QAPP. In addition, when developing the NLFA fact sheet (see Task 4a), the contractor shall include an addendum to the QAPP detailing the methods used for developing any associated database queries.

The work performed in the PWS shall conform to the draft Information Quality Guidelines (IQG) Checklist attached at the end of this document (Attachment A). The completed checklist shall be submitted with the final deliverables.

Task 3 – Collection and Analysis of Fish Tissue Contamination Data

- a. The contractor shall add the fish tissue data collected under WA 3-08 to the NLFA. The contractor shall assume 1,500 fish contaminant samples will be added to the database.
- b. Under WA 3-08, the contractor georeferenced 2011 tissue, used for making advisory decisions to the waterbody level. Under WA 4-08, the contractor shall geo-reference

the tissue-related station data for inclusion in the NLFA. In consultation with the WAM, the contractor shall prioritize for geo-referencing any tissue data currently included in the NLFA but not geo-referenced. For purposes of estimating cost, the contractor shall assume 2,000 fish tissue data stations shall be georeferenced under this task.

Task 4 - Modifying and Transitioning the NLFA Database

Under WA 3-08, the contractor prepared and submitted a draft options paper for transitions the NLFA database. The contractor shall incorporate the EPA's comments on the draft and finalize the white paper. The hours for this task shall not exceed the 40 hours estimate to complete this task.

Task 5 - Analysis and Reporting of NLFA Fish Advisory Information

- a. The contractor shall prepare a revised draft fact sheet based on comments received on the draft fact sheet submitted under WA 3-08. Upon receipt of EPA's comments on the revised draft fact sheet, the contractor shall prepare the final version of the fact sheet in the approved Publisher fact sheet template provided by EPA. The contractor shall make the final document web ready and 508 compliant.
- b. The contractor shall prepare a list of Questions and Answers consistent with the format and content of http://water.epa.gov/scitech/swguidance/fishshellfish/fishadvisories/nlfa_qa_2010.cfm . A draft version of the Questions and Answers shall be provided to the WAM for review prior to submitting the final version.
- c. The contractor shall develop a PowerPoint presentation similar in content to the presentation entitled "National Maps and Graphics" on the fish advisories website http://water.epa.gov/scitech/swguidance/fishshellfish/fishadvisories/advisories_index.cfm. A draft version of the presentation shall be provided to the WAM for review prior to submitting the final version of the presentation to WAM.
- d. The Fish Advisory Program is required to report annually the total waters assessed. For the past several years, we have considered the total waters under advisory to be equal to the total waters assessed. The Program would like to more accurately report on the waters assessed, which may or may not be equal to the waters under advisory. The contractor, in consultation with the WAM, shall develop a methodology to determine the total waters assessed based on the advisory and fish tissue data for 2011. The contractor shall report the total waters assessed in the 2012 fact sheet.
- e. The contractor shall perform up to four additional data queries and/or analyses related to the NLFA advisory data.

Task 6 – Maintenance of the Mapping and Search Application

The contractor shall update the list of waterbodies in the "Advisories Where You Live" search using the NHDPlus2.0 if available or another available source with a more comprehensive list of waterbodies than are included in the "Advisories Where You Live" search. The contractor shall also update the new NLFA application by addressing any data discrepancies or minor coding issues that produce incorrect or incomplete results. Minor coding issues are defined as issues that take no more than 4 hours to modify and update on EPA server. Major coding issues will be prioritized by the EPA WAM prior to contractor making changes to the NLFA.

III. DELIVERABLES

All final reports, fact sheets and maps shall be provided to the WAM electronically. Electronic files shall be provided in PDF and in the original software. The contractor shall use Microsoft Office and Adobe Acrobat (online version) software for developing any and all electronic copies of deliverables associated with this work assignment. All documents to be posted on EPA's website shall be web-ready format and 508 compliant.

IV. SCHEDULE

- 1) Draft written deliverable(s) for review by WAM will be prepared in accordance with the timeframe specified in the Work assignment Schedule of Benchmarks and Deliverables.
- 2) Final written deliverable(s) will be furnished in accordance with the timeframe specified in the work assignment Schedule of Benchmarks and Deliverables, after written comments are received from the WAM.

Table 1. Schedule of Benchmarks and Deliverables

Task	DELIVERABLE	DUE DATE
Task 1	Monthly Progress Reports	Monthly
Task 2	Develop Quality Assurance Program Plan	
(b)	Final QAPP (including addenda)	One month before work assignment completion
(c)	Information Quality Guidelines checklist	As requested by WAM
Task 3	Collection and Analysis of Fish Tissue Contamination Data	
(b)	Updates on status of geo-referencing and data loading in the NLFA database	As requested by WAM
Task 5	Transitioning the NLFA Database	
	Final Options paper	1 week after receipt of comments

Task 6	Analysis and Reporting of NLFA Fish Advisory Information	
(a)	Revised 2011 NLFA fact sheet with figures and graphics	1 week after receipt of comments on draft fact sheet
	Final 2011 NLFA fact sheet for posting on NLFA webpage (Publisher and 508-compliant versions)	1 week after receipt of comments on revised draft fact sheet.
(b)	Draft Questions & Answers	By June 28, 2013
	Final Questions & Answers	1 week after receipt of comments
(c)	Draft NLFA presentation with maps/graphics	By June 28, 2013
	Final NLFA presentation with maps/graphics	1 week after receipt of comments
(d)	Draft methodology for total waters assessed	As requested by WAM
	Final methodology	1 week after receipt of EPA comments on draft
(e)	Data queries and analysis	As requested by WAM
Task 7	Maintenance of the Mapping and Search Application	
	Prioritized list of minor and major changes to the application	As requested by WAM
	Updated application	As requested by WAM

V. REPORTING

All documentation and reporting under this Work Assignment shall be in compliance with contract requirements. See contract clause F.2, F.3, and J.2 "List of Attachments, Number 2 - Reports of Work".

Additional requirements specific to this Work Assignment are as follows: Monthly progress reports and invoices shall be itemized to show hours and dollars by task.

VI. TRAVEL

Any travel chargeable to this work assignment shall be allowable only in accordance with the limitations of FAR 31.205-43 and FAR 31.205-46, and must be approved by the EPA Project Officer prior to travel taking place. No travel is anticipated under this work assignment.

VII. CONTRACTOR IDENTIFICATION

Contractor personnel shall always identify themselves as contractor employees by name and organization and physically display that information through an identification badge.

Contractor personnel are prohibited from acting as the Agency's official representative.

The contractor shall refer any questions relating to the interpretation of EPA policy, guidance, or regulation to the Work Assignment Manager.

VIII. PERIOD OF PERFORMANCE

This work assignment will start on June 23, 2013 and extend through June 22, 2014.

IX. LEVEL OF EFFORT

The level of effort for this carryover work assignment is 148 professional hours. Clerical hours are not included.

X. EPA CONTACTS

WORK ASSIGNMENT MANAGER (WAM):

NAME: Samantha Fontenelle
ADDRESS: 1200 Pennsylvania Ave., NW
MC-4305T, Room 6105-L
Washington, DC 20460
PHONE: (202) 566-2083
E-MAIL: Fontenelle.Samantha@epa.gov

ALTERNATE WORK ASSIGNMENT MANAGER (AWAM):

NAME: Jeffrey Bigler
TITLE: Program Manager
ADDRESS: 1200 Pennsylvania Ave., NW
MC-4305T, Room 6210-P
Washington, DC 20460
PHONE: 202-566-0389
E-MAIL: Bigler.Jeff@epa.gov

XI. ATTACHMENTS

This section provides additional detailed project background or other necessary reference materials for contractor performance.

ATTACHMENT A: Information Quality Guidelines Checklist for Influential Information

ATTACHMENT B: QA Form Addendum

ATTACHMENT A

Office of Water Information Quality Guidelines Checklist for *Influential Information*

Influential Information has or will have a clear and substantial impact on important public policies or private sector decisions. (Includes OMB economically significant actions, peer reviewed documents, top Agency policy documents, and other actions on a case-by-case basis.)


- ☐ The information to be disseminated is covered under The Guidelines.
- ☐ The information is in compliance with EPA's Quality System and other related policies.
- ☐ The information is in compliance with Office of Water's Quality Management Plan.
- ☐ The information is consistent with the OMB definition of "quality," meaning the information has a high level of objectivity, utility, and integrity.
 - ☐ Objectivity: information is presented in an accurate, clear, complete, and unbiased manner, and as a matter of substance, is accurate, reliable, and unbiased.
 - ☐ Integrity: the information cannot be compromised through corruption or falsification because it is secure from unauthorized access or revision.
 - ☐ Utility: the information is useful to the intended users.
- ☐ The information meets "reproducibility" standard.
The information and its accompanying documentation has a higher degree of transparency regarding the following:
 - ☐ The source of the data used
 - ☐ The various assumptions employed
 - ☐ The analytic methods applied
 - ☐ The statistical procedures employed

Division Director's Signature & Date

OGWDW staff)

IQG Officer for OW Signature & Date
(Officer Signature Not needed for

**If your information does not comply with any of these items, please attach brief explanation of any omissions. Please forward a copy of this document to your office's Quality Assurance Officer.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 4-09 <input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024	Contract Period 06/23/2009 To 06/22/2014 Base Option Period Number 4	Title of Work Assignment/SF Site Name								
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW Tasks III and IV								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 07/02/2013 To 06/22/2014								
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
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Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:				LOE:				
06/23/2009 To 06/22/2014										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor W/P Dated:		Cost/Fee:				LOE:				
Cumulative Approved:		Cost/Fee:				LOE:				
Work Assignment Manager Name Yvonne Gonzalez <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number 312-353-2211 FAX Number:				
Project Officer Name Cynthia Bowie <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-564-7726 FAX Number:				
Other Agency Official Name Yvonne Gonzalez <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 312-353-2211 FAX Number:				
Contracting Official Name Christine Edwards <div style="display: flex; justify-content: space-between;"> <div>  (Signature) </div> <div> 7/2/2013 (Date) </div> </div>						Branch/Mail Code: Phone Number: 202-564-2182 FAX Number:				

STATEMENT OF WORK

Chemical Control Division (CCD) Chemical Test Data Quality Assurance & Quality Compliance (QA/QC) Contract Support

PERIOD OF PERFORMANCE: July 2, 2013 through June 22, 2014.

LEVEL OF EFFORT: The estimated LOE for this Work Assignment is 650 hours.

INTRODUCTION:

The U.S. Environmental Protection Agency (EPA) collects test data on chemicals pursuant to Section 4 of the Toxic Substance Control Act (TSCA) via test rules, enforceable consent agreements and/or voluntary submissions. Section 4 of TSCA gives the EPA the authority to require chemical manufacturers and processors to test existing chemicals.

Under TSCA Section 4, EPA can by rule require testing after finding that a chemical may present an unreasonable risk of injury to human health or the environment, and/or the chemical is produced in substantial quantities that could result in significant or substantial human or environmental exposure; the available chemical data is inadequate to evaluate; and if testing is needed to develop the needed data. EPA's OPPT also works with members of the chemical industry to develop needed data via TSCA Section 4 Enforceable Consent Agreements (ECAs) and Voluntary Testing Agreements (VTAs). Anyone who manufactures, imports, or processes chemicals that are subject to TSCA Section 4 regulations are required to provide the EPA with measured or existing testing data that adequately demonstrates and assesses the chemical's impact to human health, the environment, and potential risks posed through exposure.

The function of the Statement of Work (SOW) is to outline the general requirements to complete adequate quality assurance and quality compliance of chemical testing data uploaded to the OPPT Chem View system. The SOW Task 2 and 3 will be organized to follow the standard Data Quality Objectives (DQO) process contained in EPA DQO guidance.

The work under this SOW will be conducted in 3 phases. The first phase will include a summary of existing data uploaded into the MS Access database used to export chemical testing information for the purpose of the Chem View system from TSCA chemical testing submissions as reported either under regulatory or voluntary programmatic functions. Phase 2 includes the analysis and accuracy of the documents, including confirmation of the use of non-CBI information in completing the chemical test data upload to the database. The third phase is identifying the specific data inaccuracies or gaps, including confirmation of the use of non-CBI information, which the contractor shall correct prior to final export of data to the Chem View system. The third phase may involve preparation/delivery of a data gap sampling work plan(s) and subsequent report(s). The third phase will be the preparation of the final QA/QC of the testing data reported.

PURPOSE:

The purpose of the work assignment is to provide technical support to EPA for chemical testing data collection in the areas of: (1) performing chemical testing data reviews based on the document collection and scan which were used to complete test rule data entry to the Chem View system; (2) review formatting and data entered into the MS Access database for the purpose of exporting to the ChemView system; and 3) providing technical assistance and subject matter experts in identifying and correcting discrepancies in all test rule data entry fields within the database.

The work assignment will involve the use of TSCA regulatory notices and voluntary or regulatory testing submissions.

LEVEL OF EXPERIENCE:

To support EPA ChemView system, the contractor shall strive to successfully meet all of the following performance elements for each task unless stated otherwise in the work assignment. Fulfilling the task elements shall define contractor success as detailed in the contract.

The contractor shall possess, and be able to effectively apply, comprehensive knowledge and technical expertise in all aspects related to chemical, biological, environmental, exposure, field sampling and monitoring methods. To the extent possible, the contractor shall provide technical expertise in the review and accuracy of OECD protocol/guidelines for chemical testing data.

The contractor shall provide an extensive team of experts in a variety of fields. These experts shall possess a degree and/or working experience in the following areas: human and ecological risk assessment; toxicology; microbiology; pharmacokinetics; chemistry; biochemistry; hydrology; biology; meteorology; ecology; civil, chemical and environmental engineering; soil science; materials science and engineering; computer programming; modeling software development; hydrogeology; and geochemistry. In addition, expertise in the following fields may be beneficial in the conduct of the contract: environmental and natural resources management and protection; materials-flow and materials management; statistics and the treatment of uncertainty and variability; database management; data quality assurance and quality control; communications; and meeting facilitation.

PERFORMANCE REQUIREMENTS:

The performance requirements primarily include providing EPA with technical and outreach support in the following major work areas:

1. Hazard, Fate, Exposure, and Risk Assessment Support;
2. Emerging Technical Issues Support;
3. Model/Method Development and Support;
4. Information Gathering and Data Analysis;
5. Document Preparation; and
6. Other Technical Support

The contractor shall provide recommendations and options on technical issues that are supported and documented by its underlying QA/QC analysis. EPA will make the final decisions with regard to the implementation of the recommendations to reconciling the accuracy and completeness of the chemical testing information.

When modifying deliverables in accordance with EPA revisions or modifications, the contractor shall provide a redline version of the revised deliverables and, if requested by the WAM, shall also provide a written response to each revision or modification, indicating how and where the revision or modification was addressed.

EPA will make all decisions with regard to policy issues that may arise. All materials prepared under this contract by the contractor will be reviewed, revised and finalized by EPA.

SCOPE OF WORK:

Task 1: Submit Work Plan and Budget, Manage Work Assignment, and Perform Administrative Tasks

This task will involve the submission of a work plan and budget, and the management of the Work Assignment. Under this task the contractor shall submit a work plan within 15 calendar days of receipt of this Statement of Work. The work plan shall describe the work to be performed, the technical approaches used for the various sub-tasks, projected schedules, cost information, a staffing plan, and an outline of key deliverables on a task-by-task basis with expected due dates.

Task 2: Collection of Supporting Documents for Verification

The contractor shall initiate and complete a quality assurance and compliance analysis of the TSCA regulatory and voluntary information document data collection, including (1) the review of the accuracy of the endpoint data that satisfy the criteria guidelines as identified by the WAM; (2) ensuring that final data entries are accurately enumerated, are accurately abstracted and evaluated from the testing document collection; and (3) the conclusions described in the collection of testing submissions and/or Agency reviews provided for data entry are accurate.

The contractor shall utilize all available resources used in data collection, including pdfs and the hard copy files, etc., of testing data submitted and agency reviews for collection of data.

The contractor shall review for accuracy and consistency documents that have been thoroughly quality-control checked (QCed), as provided by EPA, to ensure that data are accurately reflected and support the test rule template data fields in the database.

The contractor shall audit the Access database to determine if the scanned files are located in the correct directory. The contractor shall notify the WAM of any files which are either missing, or in the incorrect location for completeness. The WAM will provide the folder structure for the Access database for reference.

Task 3: Verification of Data Entry Accuracy

The contractor shall initiate and complete a quality assurance and compliance analysis of the TSCA regulatory and voluntary information document data entered by (1) reviewing data entered in to each data field; (2) providing notification to the WAM of incorrect or missing data entries; and (3) reconciling incorrect or missing data with accurate data to the appropriate fields for completeness.

The contractor shall track the progress of completion of the QA/QC for each test rule chemical's data entry completeness, verifying accuracy against the document collection of the testing submissions. The WAM will provide the contractor with all relevant guidelines used for formatting and data entry.

DELIVERABLES:

All deliverables shall be submitted to the WAM electronically (MS Word, Adobe pdf).

- Task 1:** The contractor shall submit a work plan as specified in the contract.
- Task 2:** The contractor shall submit to the WAM written updates on the status of completion of the tasks on a regular basis. The update should include identification of any missing documents, incorrect document identification for data, and data entry discrepancies.
- Task 3:** The contractor shall submit to the WAM written updates on the completion of the subtasks in this task on regular basis. The update should include reporting of progress of the quality assurance and compliance of document collection, notification of any quality issues or concerns for these documents, reporting of testing submission data loaded into the ChemView system, and notations of changes in the identities and any updates made to the loaded data into the database.

OTHER:

- This Work Assignment relates to Task III and IV of the contract SOW: Provide Support for Regulatory Development. In particular, to provide technical assistance to OPPT in development of regulation and in improving the public understanding of OPPT's rulemaking activities and data collection.
- CBI is not required.
- A work plan is required.
- A QA/QC Plan is not required.

Work Assignment Manager:

Yvonne V. Gonzalez

U.S. Environmental Protection Agency

Chemicals Control Division

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Deputy Work Assignment Manager

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EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment		Work Assignment Number 4-10 <input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024	Contract Period 06/23/2009 To 06/22/2014 Base Option Period Number 4	Title of Work Assignment/SF Site Name ChemView Data Quality Check								
Contractor BATTELLE MEMORIAL INSTITUTE		Specify Section and paragraph of Contract SOW								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval		Period of Performance From 06/23/2013 To 06/22/2014								
Comments: Approving Work Plan dated July 24, 2013 in the amount of \$34,911 with 345 in LOE.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
SFO (Max 2) <input type="checkbox"/> Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
Line	OCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$0.00		LOE: 0						
06/23/2009 To 06/22/2014										
This Action:		\$34,911.00		345						
Total:		\$34,911.00		345						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 07/24/2013		Cost/Fee: \$34,911.00		LOE: 345						
Cumulative Approved:		Cost/Fee: \$34,911.00		LOE: 345						
Work Assignment Manager Name Kathryn Schechter						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number 202-564-8589				
						FAX Number: 202-564-8679				
Project Officer Name Cynthia Bowie						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 202-564-7726				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number:				
						FAX Number:				
Contracting Official Name Christine Edwards						Branch/Mail Code:				
<i>Christine Edwards</i> (Signature) 9/11/2013 (Date)						Phone Number: 202-564-2182				
						FAX Number:				

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

4-10

☐ Other ☐ Amendment Number:

Contract Number

EP-W-09-024

Contract Period 06/23/2009 To 06/22/2014

Base

Option Period Number 4

Title of Work Assignment/SF Site Name

ChemView Data Quality

Contractor

BATTELLE MEMORIAL INSTITUTE

Specify Section and paragraph of Contract SOW

Purpose:



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 06/23/2013 To 06/22/2014

Comments:

The purpose of the work assignment is to initiate work on OCSPP's ChemView System.



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period:

Cost/Fee:

LOE:

06/23/2009 To 06/22/2014

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated:

Cost/Fee:

LOE:

Cumulative Approved:

Cost/Fee:

LOE:

Work Assignment Manager Name Kathryn Schechter

Branch/Mail Code:

Phone Number 202-564-8589

FAX Number 202-564-8679

(Signature)

(Date)

Project Officer Name Cynthia Bowie

Branch/Mail Code:

Phone Number 202-564-7726

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Christine Edwards

Branch/Mail Code:

Phone Number 202-564-2182

FAX Number:

(Signature)

(Date)

Contract Number: EP-W-09-024

Work Assignment Number: 4-10

Change Number: 0

Title: ChemView Data Quality Check for Chemistry and Fate

Purpose: To provide support for the work on the OCSPP ChemView System. This work is limited to the verification of Chemistry and Fate data that will be loaded into the ChemView System for Hazard Characterization chemicals that have been evaluated by OCSPP under its HPV program.

A. Background: The ChemView System is a new web site being developed by the Office of Chemical Safety and Pollution Prevention (OCSPP) as part of the Office's broader Data Transparency and Existing Chemical efforts. OCSPP has a large volume of existing chemical data on several thousand existing chemicals that have been studied to varying degrees; some of these chemicals are regulated, and some are considered substitutes for regulated chemicals. OCSPP's data on these chemicals is currently housed in several separate systems and databases. The ChemView System is being developed to be a one-stop-shop for all OCSPP existing chemical data.

B. Scope of Work:

Task 1 Submit Work Plan and Budget, Manage Work Assignment, and Administrative Tasks

This task will involve the submission of a work plan and budget, and the management of the Work Assignment. Under this task the contractor shall prepare a work plan within 15 calendar days of receipt of this work assignment. The work plan shall describe the work to be performed, projected schedules, cost information, a staffing plan, and an outline of deliverables with expected due dates.

Task 2 Verification of Data Entered in the OCSPP Chemical Portal for Hazard Characterization Chemicals

The contractor will be given access to servers that house the Chemical Portal data and a SharePoint application where comments are noted. Contained within the Chemical Portal are fielded data for each chemical as well as the original Hazard Characterization Reports (PDF) for each chemical. For physical chemical and fate endpoints, the contractor shall compare the fielded data with the data contained in the attached PDF files. The data verification for chemical names and structures are not within the scope of this task.

The contractor shall track the progress of the data verification by noting discrepancies between the fielded data and the data in the PDF files in the SharePoint application.

The contractor will be given a list of approximately 600 chemicals in the Chemical Portal to verify.

C. DELIVERABLES:

Task 1. The contractor shall submit a work plan within 15 days after receipt of work assignment.

Task 2. The contractor shall enter data verification discrepancies between the fielded data and the data in the PDF files in the SharePoint application. The contractor shall also note in the SharePoint application if no discrepancies were found. The contractor shall submit to the WAM written progress reports weekly listing which chemicals have been completed.

OTHER:

A Quality Assurance Plan is required; the Contractor will be reviewing environmental data.

Confidential Business Information (CBI) does not apply.

This work assignment relates to Tasks III and IV of the current Statement of Work (SOW) of the contract.

D. Period of Performance:

This work assignment will start on June 23, 2013 and extend through September, 30, 2013.

V. Level of Effort

The total hours for this work assignment are 170.

VI. EPA Contact:

Work Assignment Manager:

Kathryn Schechter

US EPA Economics Exposure and Technology Division

Industrial Chemistry Branch (7406M)

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Alternate Work Assignment Manager:

Richard Engler

US EPA Economics Exposure and Technology Division

Industrial Chemistry Branch (7406M)

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9/12/2013
(Date)

Statement of Work

OPPT Contract Number: EP-W-09-024

Work Assignment 4-11

Title: Developing Technical Analyses to Address Ship Emissions in Mexico

Purpose: The purpose of this work assignment is to provide general program support to EPA to assist the Government of Mexico in considering policies to reduce emissions of toxic chemicals and air pollutants from ships. The work will include assisting Mexico in compiling, analyzing and communicating technical data from modeling efforts conducted by the Mexican Government.

I. Background:

Air pollutants, including toxic chemicals from shipping, affect the environment and public health. These pollutants are emitted to the atmosphere by ships over the open ocean and can travel many miles, often far inland, to impact public health and environmental conditions. To address shipping emissions, MARPOL Annex VI requires ships to reduce air pollution as part of the International Convention for the Prevention of Pollution from Ships or MARPOL under the International Maritime Organization (IMO). MARPOL Annex VI also enables countries to designate more stringent international standards in an Emission Control Area (ECA). In the U.S., the North American Emission Control Area (NA ECA) came into force on August 1, 2012.

This work assignment builds on four years of U.S.-Mexico collaboration to study and evaluate the impact of emissions from shipping in Mexico, which resulted in the Mexican Government deciding to consider an ECA. In 2005, a team analyzed North American ship traffic data, including ships in Mexican waters, in the development of the NA ECA. Since then, EPA and Mexican Environment Ministry (SEMARNAT) have been sharing experiences and information on shipping. In 2010, EPA, SEMARNAT and several industry partners completed a fuel switching demonstration to show the operational implications of fuel switching and document the actual pollutant reductions. In February 2012, the EPA Administrator presented the Mexican Minister of Environment with the Gulf Guardian Award for this work. Both ministers agreed to continue working together due to the ECA's importance to human health and environment in Mexico and North America as a whole.

In 2012, the Mexican Government decided to pursue consideration of an ECA. To date, in cooperation with EPA, SEMARNAT developed a work plan to produce the information needed for the decision making process. EPA has performed work to develop a shipping emissions inventory for Mexico for use in air quality and human health modeling to inform the ECA development process. SEMARNAT convened Mexican inter-agency work groups to develop the technical information for decision making as soon as possible.

In 2013, EPA will work with SEMARNAT to provide technical assistance to Mexico using the experience gained from the ECA proposal analyses to establish the NA ECA. EPA will provide information on the process to establish an ECA, policies needed and lessons learned from NA ECA implementation. SEMARNAT aims to conduct technical analyses to support Mexican ratification of MARPOL Annex VI and establishment of an ECA, including air quality modeling to assess the air quality impacts of shipping emissions and a fuel study to assess the impact of an ECA on marine fuel supply and demand. EPA will work with SEMARNAT to coordinate with other Mexican agencies and to draw on EPA's experience in conducting similar analyses.

II. Scope of Work:

This work assignment provides general program support to EPA as EPA works with SEMARNAT to compile and assess the technical information needed to determine the impacts of an ECA and to inform the decision to ratify MARPOL Annex VI and establish a Mexican ECA. This work assignment will provide needed program support to EPA in response to SEMARNAT needs.

This work assignment relates to Tasks I (Collection of Data), II (Data Analysis) and III (Technical Program Support – General Support) of the Statement of Work for contract EP-W-09-024.

NOTE: A detailed work plan is required before the contractor begins the technical work in the four tasks listed below. The contractor must receive technical direction from the contract-level Project Officer before any work is begun on the technical tasks.

Work Assignment Tasks:

Task 1: Technical analyses and planning

Support Mexican development and implementation of a plan to conduct technical analyses for an ECA proposal to the IMO. Determine extent of specific support needed for Mexico to conduct needed technical analyses, including relevant technical expertise. Possible needed technical analyses to be conducted by the contractor include:

- Fuel demand study – to assess the impact of an ECA on the supply and demand of marine fuels and alternative fuels, including liquid natural gas.
- Ship cost study – to assess the potential cost impacts that compliance with a Mexican ECA may have on ships.

Task 2: Coordination

Coordinate Mexican inter-agency collaboration and communication on the plan to conduct technical analyses for an ECA proposal. Provide on-the-ground, real-time staff support to

Mexican policy makers and technical staff. Contractor would coordinate Mexican inter-agency communication and communication with EPA.

Task 3: Meeting Support

Contractor will facilitate meetings by arranging for meeting rooms, conference lines and related meeting logistics, including travel costs for two trips to Mexico City for experts as appropriate, if the need for such travel is approved by the COR.

Task 4: Reporting

Contractor will report progress of technical assessments to EPA to assist EPA in tracking progress and understanding Mexico's needs.

Technical Expert Reviewers: The COR will work with appropriate EPA technical experts in reviewing the work of the contractor.

Uncertainties: The success of the project as it is currently designed depends on SEMARNAT's capacity to develop and implement the ECA analysis plan. Should the capacity become a limiting factor, the contractor will consult with the COR and the workplan may be revised through the normal process.

Specific Personnel Qualifications for Task 2

- Native Spanish-speaking with good English language ability
- Locally available to meet on-site with Mexican officials
- Accessible to Mexican officials
- Background in environmental science, in particular air quality modeling

III. Deliverables and Schedule

1. Draft final project report – including a quality (QA/QC) review; four weeks prior to end of contracting period (EPA to review within one week).
2. Final project report – including a quality (QA/QC) review; two weeks prior to end of contracting period (EPA to review within one week).

IV. Period of Performance

This work assignment will start on the date of the contracting officer's signature and extend through June 22, 2014.

V. Level of Effort:

This work assignment shall require 660 professional hours.

This project does not involve Confidential Business Information.

This project will require QA/QC for the analyses conducted by Battelle. The QA/QC efforts will follow the guidance in the Quality Management Plan (QMP) of the Office of International and Tribal Affairs – the funding organization for this project.

VI. EPA Contacts:

Work Assignment Manager

Name: Angela Bandemehr

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Alternate Work Assignment Manager

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EPA United States Environmental Protection Agency Washington, DC 20460		Work Assignment Number 4-12								
Work Assignment		<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:								
Contract Number EP-W-09-024		Contract Period 06/23/2009 To 06/22/2014 Base Option Period Number 4								
Contractor BATTELLE MEMORIAL INSTITUTE		Title of Work Assignment/SF Site Name Archiving/Scanning PCB Docs.								
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval		Period of Performance From 09/12/2013 To 06/22/2014								
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-59A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		LOE:						
06/23/2009 To 06/22/2014										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee:		LOE:				
Cumulative Approved:				Cost/Fee:		LOE:				
Work Assignment Manager Name Selwyn Cox						Branch/Mail Code:				
_____ (Signature)						_____ (Date)				
Project Officer Name Cynthia Bowie						Phone Number 202-566-0496				
_____ (Signature)						_____ (Date)				
Other Agency Official Name						FAX Number:				
_____ (Signature)						_____ (Date)				
Contracting Official Name Christine Edwards						Branch/Mail Code:				
_____ (Signature)						_____ (Date)				
9/12/2013						Phone Number: 202-564-2182				
						FAX Number:				

Contract Number: EP-W-09-024
Work Assignment Amendment: 4-12

Title: Archiving and Scanning of Polychlorinated Biphenyl Rulemaking (PCB) Related Documents

I. Purpose

The purpose of this work assignment is to support the efforts of the Environmental Protection Agency (EPA) to inventory, scan and archive polychlorinated biphenyl (PCB) related documents located within the Office of Pollution Prevention and Toxics (OPPT), National Program Chemicals Division (NPCD). NPCD has compiled information in many forms which they use in rule-making and to interact with EPA regions, other federal agencies, Congress, states, tribal and local governments, individuals, communities, organizations, corporations. NPCD must be able to readily access all of its records to answer Freedom of Information Act (FOIA) and Congressional requests and to prepare for various kinds of outreach activities to promote environmental health protection. This means that an effective records management system must be in place. Such a system must provide consistency in the way records are managed, greater efficiency in the filing and retrieval of documents, increased document security, and improved utilization of available space. This work is necessary to properly organize, archive and make available to the public PCB-related documents.

II. Background

NPCD is responsible for developing and managing multimedia regulatory and non-regulatory control programs to reduce and manage risks from designated National Program Chemicals or other priority risk management chemicals within the OPPT. NPCD uses the authorities granted under the Toxic Substances Control Act (TSCA) to carry out its regulatory responsibilities. The Fibers and Organics Branch (FOB) of NPCD is responsible for the regulation several legacy chemicals including PCBs under the TSCA. FOB is responsible for housing information concerning PCB rule-makings and maintaining files.

III. Scope of Work

Task I: Inventory, organize and archive all PCB-related documents including correspondences, publications, technical reports, interpretive guidance, and PCBs regulatory related documents housed in NPCD office space and from the TSCA Assistance Information Service (TAIS). EPA will make the TAIS documents available to the contractor onsite at the NPCD office space.

Task II: Scan PCBs-related documents into electronic format that are selected by EPA for scanning. The electronic documents should be searchable by key words and categories that will be provided to the contractor by the Work Assignment Manager (WAM).

Task III: Examine historical FOIA requests received over time on PCBs-related topics and advise EPA on how to index or otherwise format the relevant electronic files so that they are easy to retrieve in the event of future FOIA requests.

III. Deliverables:

Task I: Provide in labeled boxes inventoried and organized archives of all PCBs- related documents described in Task I of the scope of work.

Task II: Provide a searchable database of the scanned PCB-related documents.

Task III: Provide recommendations on how to index and categorize information provided in past PCB-related FOIAs within 30 calendar days of receiving the signed work assignment from the contracting officer.

This work relates to Task IV of the Statement of Work

A work plan is required.

Confidential business information does not apply.

QA/QC does not apply.

VI. Period of Performance

This work assignment will start on the date of the contracting officer's signature and extend through June 22, 2014

V. Level of Effort

This work assignment shall require a total of 510 professional hours.

VI. EPA Contacts

WAM
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DEPUTY WAM
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